

CD - Cassette Car Radio 22DC982/62B

Service Service Service

Cassette Car Radio 22DC962/62B

For repair instructions of the CD-Player see
Service Manual CMX-200 Nr. 4822 725 24151
For repair instructions of the cassette-deck see
Service Manual of SCA 2.5 Nr. 4822 725 23505

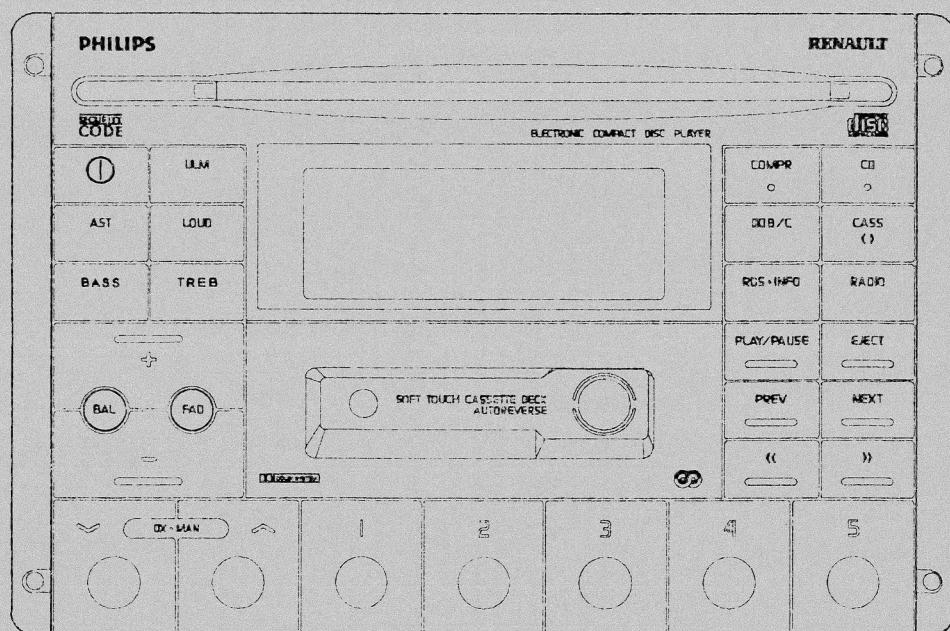
4822 725 24322

Service Manual

12 V



CLASS 1
LASER PRODUCT



Contents	page
Contents	-2
Technical data - ESD warning	-3
Controls	-4
Rear view , Connecting	-5
Service hints , Service chips handling	-6
Security code	-7
Checks and adjustments	-8
Technician's remarks	-9
DC Voltages	-10
Block diagram .. /62 B	-11-11a
Radio PCB part 1 .. /62B Schematic diagram	-12-12a
Radio PCB part 2 .. /62B Schematic diagram	-13-13a
Radio PCB part 3 .. /62B Schematic diagram	-14-14a
Radio PCB layout	-15-15a
DC 962/62B Micro PCB part 1 schematic diagram	-16-16a
DC 982/62B Micro PCB part 1 schematic diagram	-17-17a
Micro PCB part 2 .. /62B Schematic diagram	-18-18a
Micro PCB layout	-19-19a
Front PCB .. /62B Schematic diagram	-20-20a
Front PCB layout	-21-21a
Exploded view / Mechanical partslist	-22-22a
Electrical parts-list	-23-23a-24-24a-25-26

Technical data :

Radio FM 87.5 - 108 MHz , grid: 100KHz search, 50KHz manual
 MW 531 - 1611 KHz, grid: 9 KHz search, 1 KHz manual
 LW 144 - 288 KHz, grid: 1 KHz search, 1 KHz manual

IF AM 10.7 MHz
 IF FM 10.7 MHz

Cassette Deck SCA2.5 Soft Autoreverse
 2x2 tracks
 Wow and Flutter < 0.3%

CD (DC982) See specification of CD mechanism CMX200

Amplifier Output power at D = 10%: 4 X 16W at 14.4V supply voltage
 Equalizer +10/-10dB ± 2dB
 Loudness 63Hz : 6dB -1+2dB
 1KHz : 0.5dB +2.5dB
 10KHz : 4dB -2/+1dB

USE TOGETHER WITH REMOTE DISPLAY 22AP092/62T

ESD



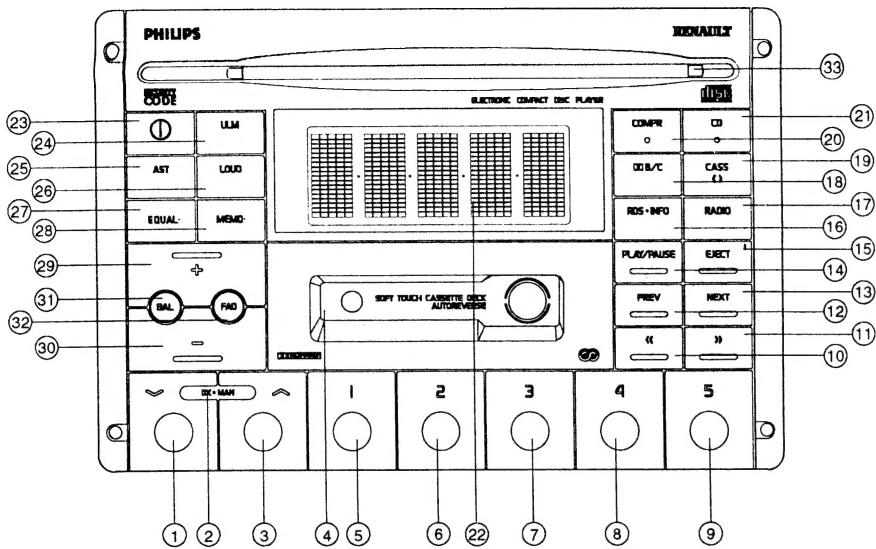
WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
 When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

22DC962/62B
 22DC982/62B

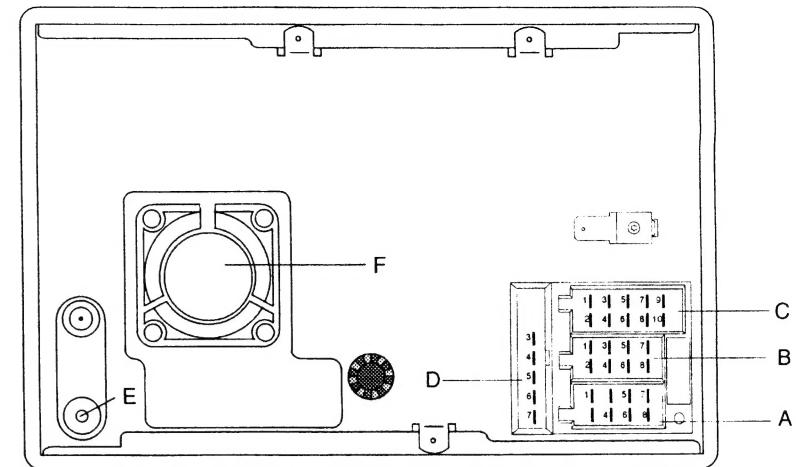
22DC962/62B
 22DC982/62B

Controls



1	SEARCH DOWN	19	CASSETTE REVERSE
2	DX - MAN	20	COMPRESSION
3	SEARCH UP	21	CD MODE SELECTION
4	CASSETTE APERTURE + FLAP	22	DISPLAY
5 to 9	PRESETS	23	ON / OFF
10	FAST REWIND	24	BAND SELECTION
11	FAST FORWARD	25	AUTOSTORE
12	PREVIOUS	26	LOUDNESS
13	NEXT	27	EQUALIZER SELECTION
14	PLAY / PAUSE	28	MEMORISATION EQUALIZER
15	EJECT	29	VOLUME +
16	RDS . INFO	30	VOLUME -
17	RADIO MODE SELECTION	31	BALANCE SELECTION
18	DOLBY B - C	32	FADER SELECTION
		33	CD APERTURE / CD IN PLUG

22DC962/62B
22DC982/62B

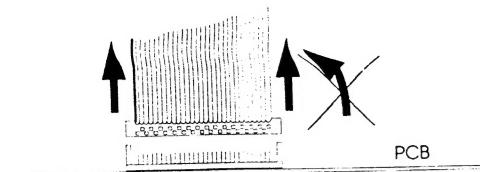


A1	Head phone box status	CONNECTOR A POWER SUPPLY	C3	Mass	CONNECTOR C REMOTE CONTROL
A2	Lighting		C4	Screening mass	
A3	Speach synthesis		C5		
A4	Permanent supply		C6		
A5	Aut aerial		C7	Remote control	
A6	Controlled illumination		C8		
A7	Supply		C9		
A8	Mass		C10		
B1	Rear right +	CONNECTOR B LOUDSPEAKERS	D3	Screening mass	CONNECTOR D REMOTE DISPLAY
B2	Rear right -		D4	Mass	
B3	Front right +		D5	Interruption	
B4	Front right -		D6	I ² C clock	
B5	Front left +		D7	I ² C data	
B6	Front left -		E	Aerial plug	
B7	Rear left +		F	Fan assy	
B8	Rear left -				

22DC962/62B
22DC982/62B

Servicing hints

Removing connectors



Fan test:

Pressing simultaneously DOLBY and LOUDNESS makes the fan running for 1 minute.

Repair

Display blinking three times when the set is switched on indicates a CD problem.

Display blinking seven times when the set is switched on indicates a cassette problem.

Make sure that you are using remote display 22AP092/62T for testing the set after repair.
If not, some features cannot be tested.

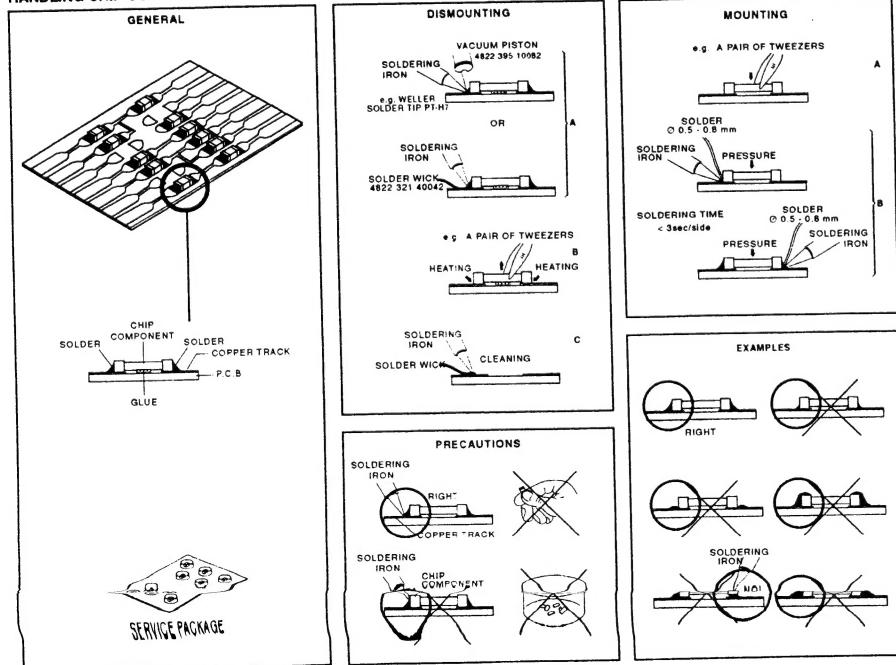
Be carefull not to wedge the wires of the fan in between the chassis and the PCB when remounting the micro PCB.

Be carefull, when remounting the front plate, that the LED's are in good position.

Do not forget to solder the mass between the chassis and the radio PCB when remounting it.

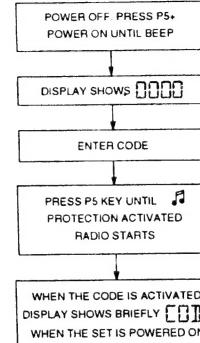
If the regulator item 4901 is to be changed, you must also check the 10Ω resistor item 3376.

HANDLING CHIP COMPONENTS

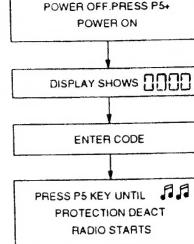


SECURITY CODE

ACTIVATING PROTECTION

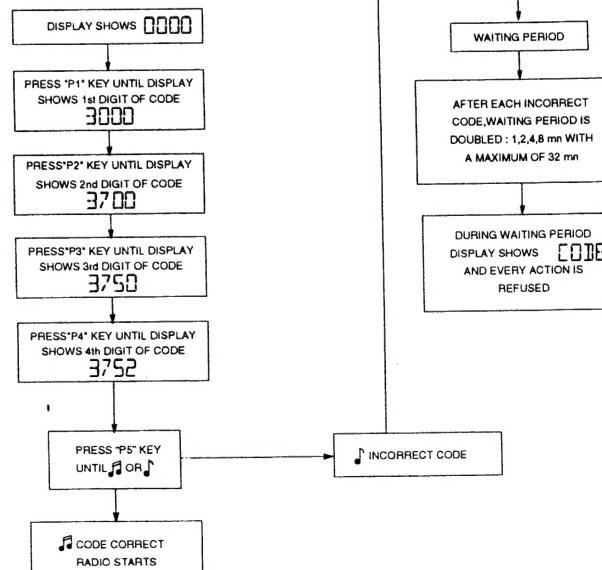


DEACTIVATING PROTECTION



ENTERING THE CODE

Example : 3752



22DC962/62B
22DC982/62B

For checking and adjusting see general procedures

Check	SK				Setting of controls		
Demodulated FM levels	FM	93 MHz 1 mV $\Delta f = 22.5 \text{ KHz}$ $f \text{ mod} = 1 \text{ KHz}$					200 mV $\pm 1 \text{ dB}$
		93 MHz 1 mV $\Delta f = 6.75 \text{ KHz}$ $f \text{ mod} = 19 \text{ KHz}$					50 mV $\pm 1 \text{ dB}$
		93 MHz 1 mV $\Delta f = 3.75 \text{ KHz}$ $f \text{ mod} = 57 \text{ KHz}$					20 mV $\pm 1 \text{ dB}$
Demodulated AM level	MW	1053 KHz 1 mV 1 KHz, 30% AM				250 mV \leq \leq 500 mV	
VC FM	FM			87.5 MHz 108 MHz			> 1.0 V
VC AM	LW			144 KHz			< 6.5 V
	MW			1611 KHz			> 0.8 V
FM limiting Sensivity	FM	93 MHz 15 μV $\Delta f = 22.5 \text{ KHz}$ $f \text{ mod} = 1 \text{ KHz}$					1.6V DC $\pm 0.1 \text{ V}$
	FM			98 MHz			> 20 mV
Oscillator voltage				990 KHz			> 30 mV

Adjustment	SK						
Quad detector	FM	93 MHz 40 μV		P2 93 MHz	5170	DC between 11 and 15 of 7150 $\leq 200 \text{ mV}$	
FM limiting sensivity	FM	93 MHz 15 μV $\Delta f = 22.5 \text{ KHz}$ $f \text{ mod} = 1 \text{ KHz}$		P2 93 MHz	3155		> 1.6 V DC $\pm 0.1 \text{ V}$
Sensivity search AM	MW	990 KHz 70 μV unmodulated		P1 990 KHz	3175		> 1.75 V DC $\pm 0.1 \text{ V}$

Technician's remarks

22DC962/62B
22DC982/62B

DC VOLTAGES

1054 IAC7 THIFI

5 = 5.0 V	1 = GND	7151 TSA6057
2 = 3.3 VV	6 = 7.9 V	2 = 4 MHz
	7 = 8.3 V	3 = 5.0 V
4 = 4.3 V	8 = GND	4 = GND
		5 = 2.0 V
		6 = 2.0 V
		7 = 2.0 V
		8 = 0.2 V FM / 8.5 V AM

1100 TUNER MODULE

1 = GND	8 = 1.6 V	7552 TEA6310
2 = 0.0 V	9 = GND	1 = 5.1 V
3 = GND	10 = 1.8 V	15 = 4.3 V
4 = 0.0 V	11 = 0.0 V	2 = GND
5 = 1.8 V FM / 0.0 V AM	12 = 8.5 V AM / 0.2 V FM	3 = 4.3 V
6 = 8.5 V	13 = 1.8 V	4 = 4.3 V
7 = 1.3 V - 5.7 V		5 = 4.3 V
		19 = N.C.
		6 = 4.3 V
		20 = 4.3 V
		7 = 4.3 V
		21 = N.C.
		8 = N.C.
		22 = 4.3 V
		9 = 4.3 V
		23 = 4.3 V
		10 = N.C.
		24 = 4.3 V
		11 = 8.5 V
		25 = 4.3 V
		15 = 3.5 V
		12 = N.C.
		26 = 4.3 V
		16 = 3.5 V
		13 = N.C.
		27 = 8.5 V
		17 = 3.6 V
		14 = 4.3 V
		28 = 5.1 V

1200 STEREO THIFI

1 = 0.6 V St / 5.0 V Mono	11 = 0.0 V FM / 4.7 V FM	7553 HEF 4052B
2 = 3.6 V	12 = 3.6 V	1 = 4.2 V
3 = 3.6 V	13 = GND	2 = 4.3 V
4 = 3.3 V	14 = 8.5 V	3 = 4.3 V
5 = 3.6 V	15 = 3.5 V	4 = 4.2 V
6 = GND	16 = 3.5 V	5 = 4.2 V
7 = 1.2 V FM / 0.7 VAM	17 = 3.6 V	6 = 0.0 V / 5.0 V MUTE
8 = 8.1 V	18 = N.C.	7 = GND
9 = 5.5 V	19 = 3.6 V	8 = GND
10 = 5.0 V	20 = N.C.	9 = 5.1 V

1250 DOLBY B/C THIFI

1 = N.C.	10 = 4.3 V	7553 HEF 4052B
2 = N.C.		1 = 4.2 V
3 = 6.0 V DBB / 8.5 V DBC	12 = N.C.	2 = 4.3 V
4 = 4.3 V	13 = 4.3 V	3 = 4.3 V
5 = GND	14 = 8.4 V	4 = 4.2 V
6 = 4.3 V	15 = 4.3 V	5 = 4.2 V
7 = 8.5 V	16 = 4.3 V	6 = 0.0 V / 5.0 V MUTE
8 = N.C.		7 = GND
9 = N.C.	18 = 4.3 V	8 = GND

7050 TEA6200

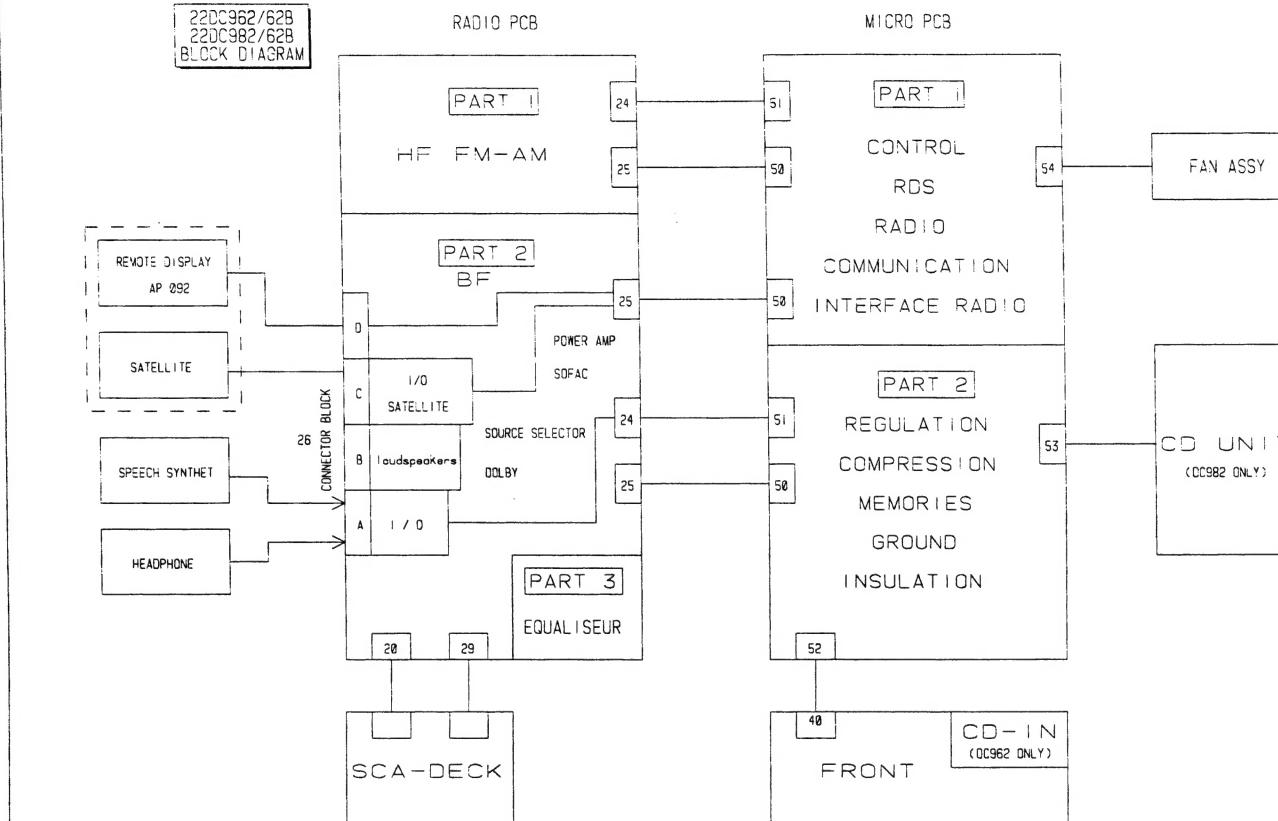
1 = 6.0 V AM	11 = 6.7 V AM	7650/7651 TDA7374
2 = 4.1 V AM	12 = 2.9 V AM	1 = 6.9 V
3 = 8.5 V AM	13 = 5.0 V AM	2 = 6.9 V
4 = 8.5 V AM	14 = 8.5 V AM / 0.2 V FM	3 = 14.0 V
5 = 8.5 V AM	15 = 4.7 V AM	4 = 0.7 V
6 = 7.3 V AM	16 = 4.7 V AM	5 = 0.7 V
7 = 1.4 V AM	17 = GND	6 = 0.7 V
8 = 4.1 V AM	18 = 4.9 V AM	7 = 9.4 V
9 = 4.1 V AM	19 = 0.7 V AM	8 = GND
10 = 4.1 V AM	20 = 5.0 V AM	9 = GND

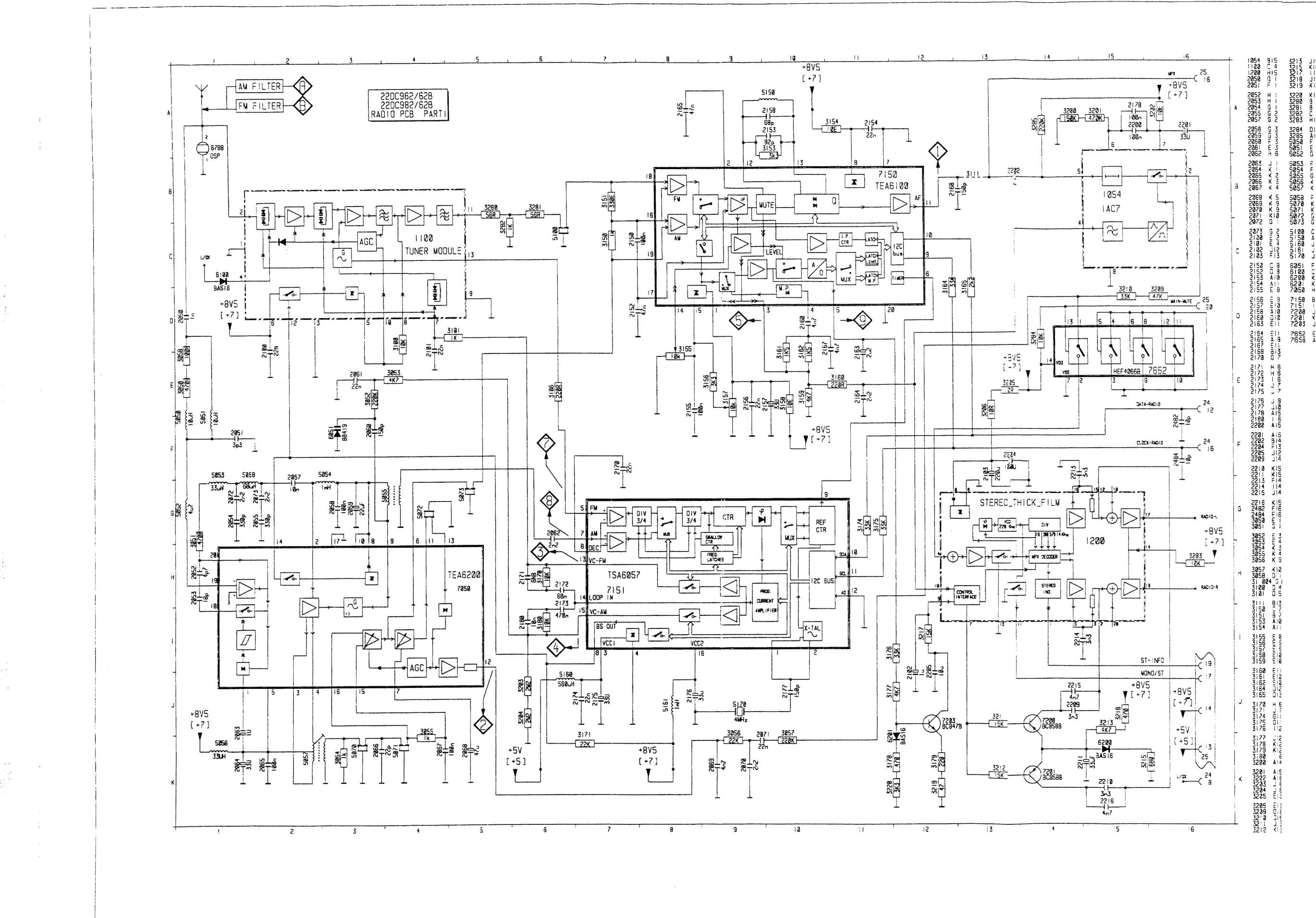
7150 TEA6100

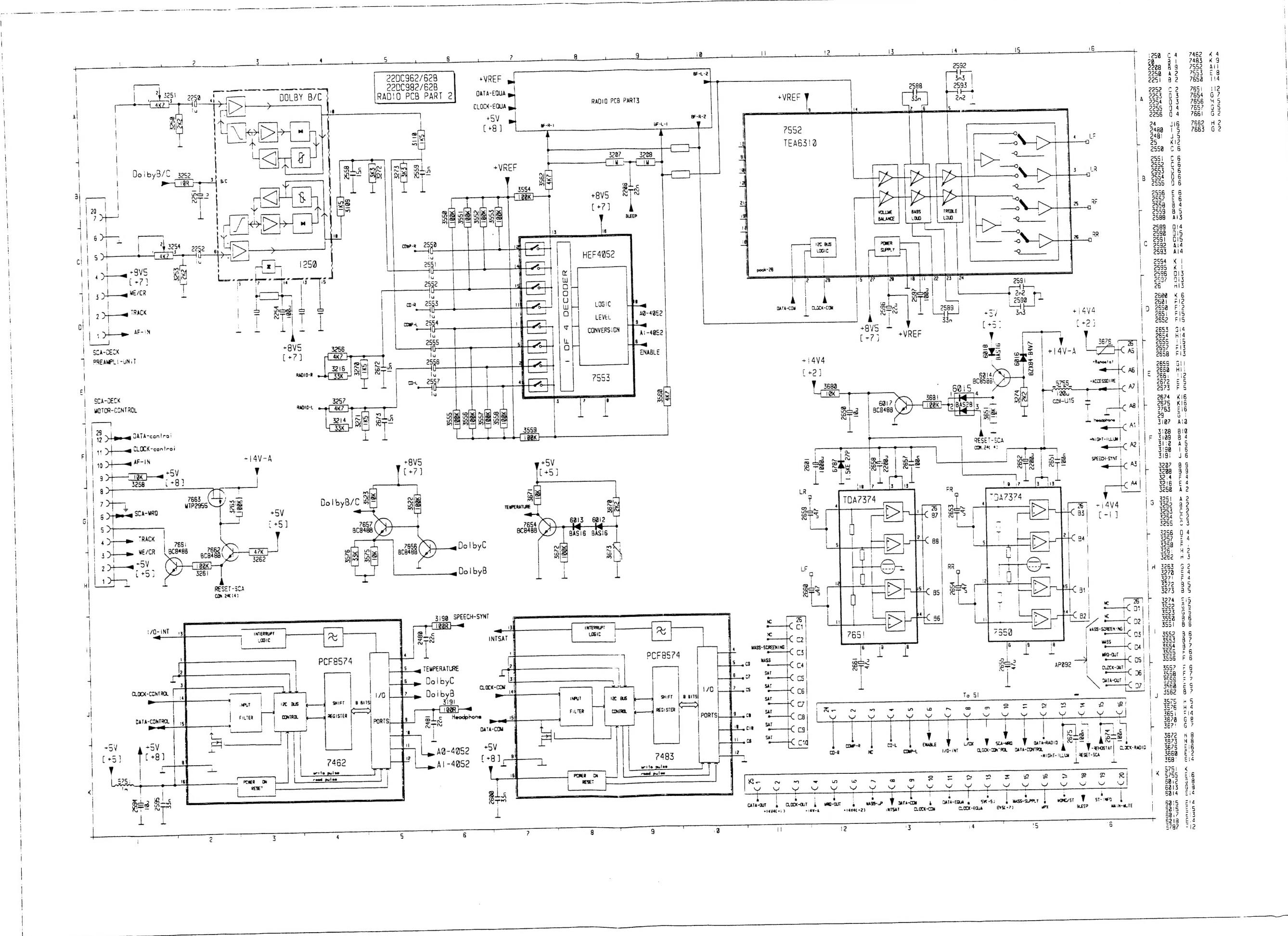
1 = 8.2 V	11 = 4.6 V	7652 HEF4066
2 = 0.8 V	12 = 4.6 V	1 = 3.3 V
3 = 4.4 V	13 = 4.6 V	2 = 3.2 V
4 = 0.0 V	14 = 2.6 V	3 = GND
5 = 0.0 V	15 = 4.3 V	4 = GND
6 = 40 KHz	16 = 3.0 V	5 = GND
7 = GND	17 = 3.0 V	6 = GND
8 = 8.4 V	18 = 3.0 V	13 = 8.5 V / 0.0 V MUTE
9 = 5.0 V	19 = 3.0 V	14 = 8.5 V
10 = 5.0 V	20 = GND	

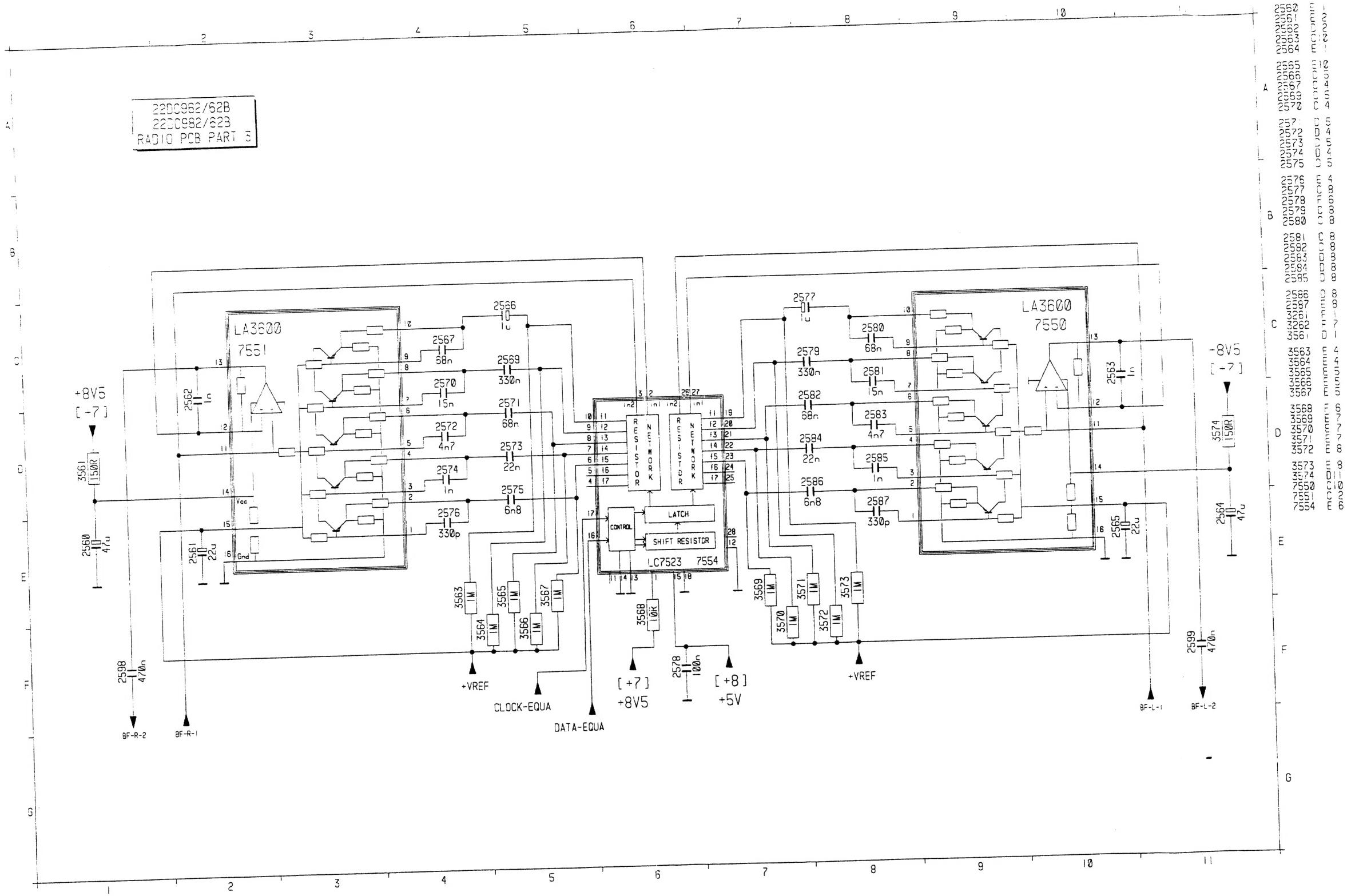
22DC962/62B
22DC982/62B

22DC962/62B
22DC982/62B
BLOCK DIAGRAM



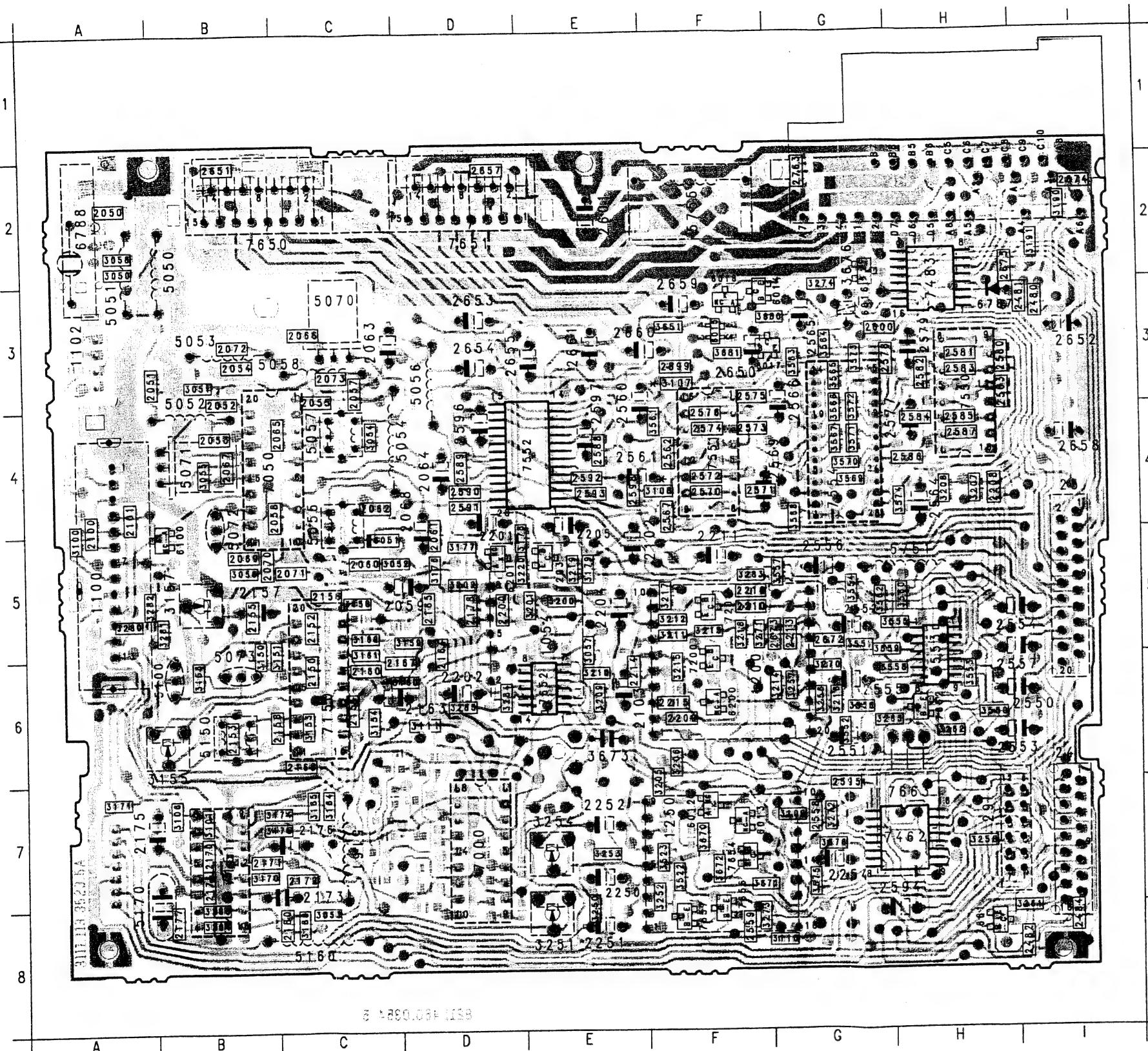






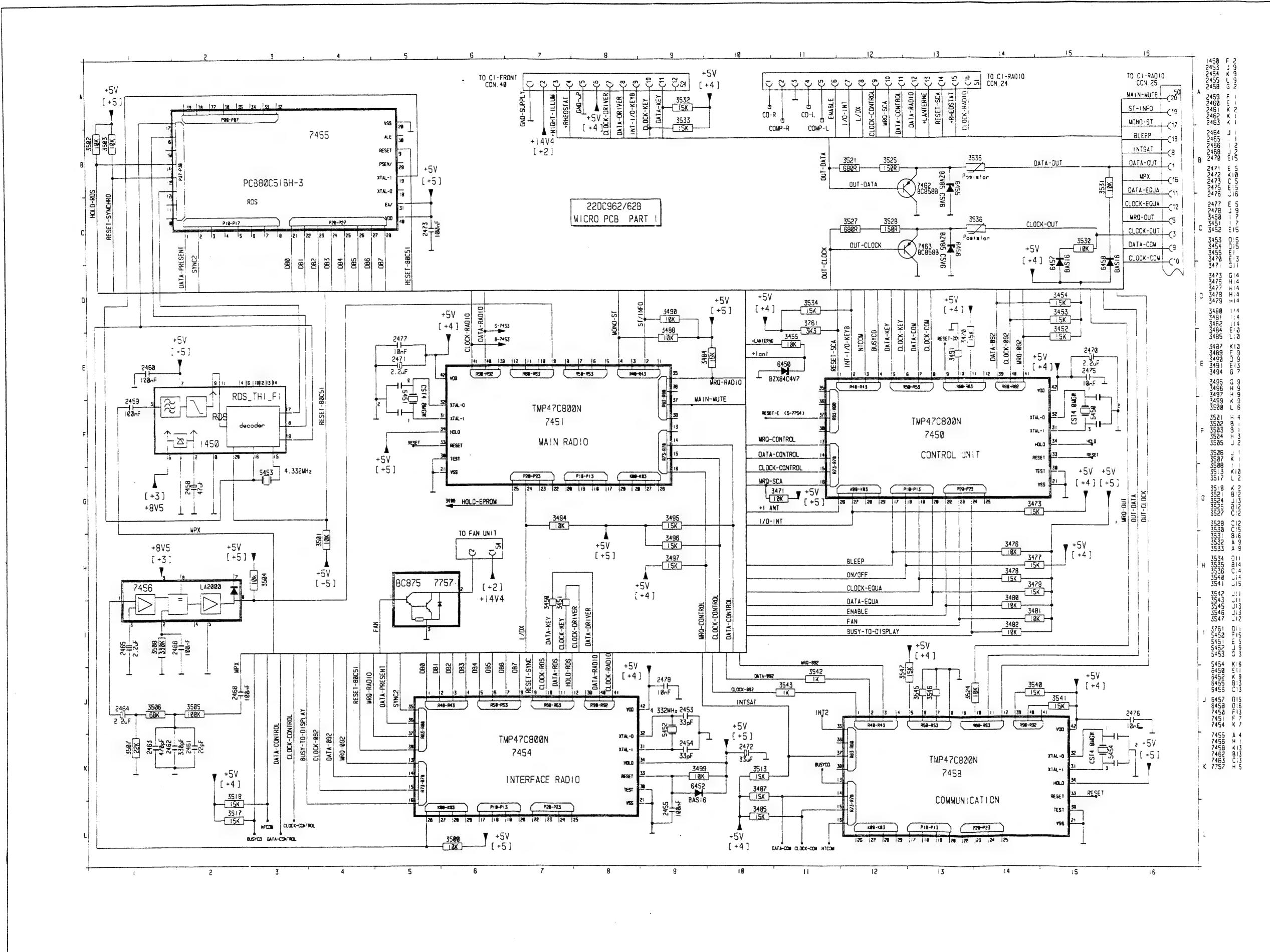
14a

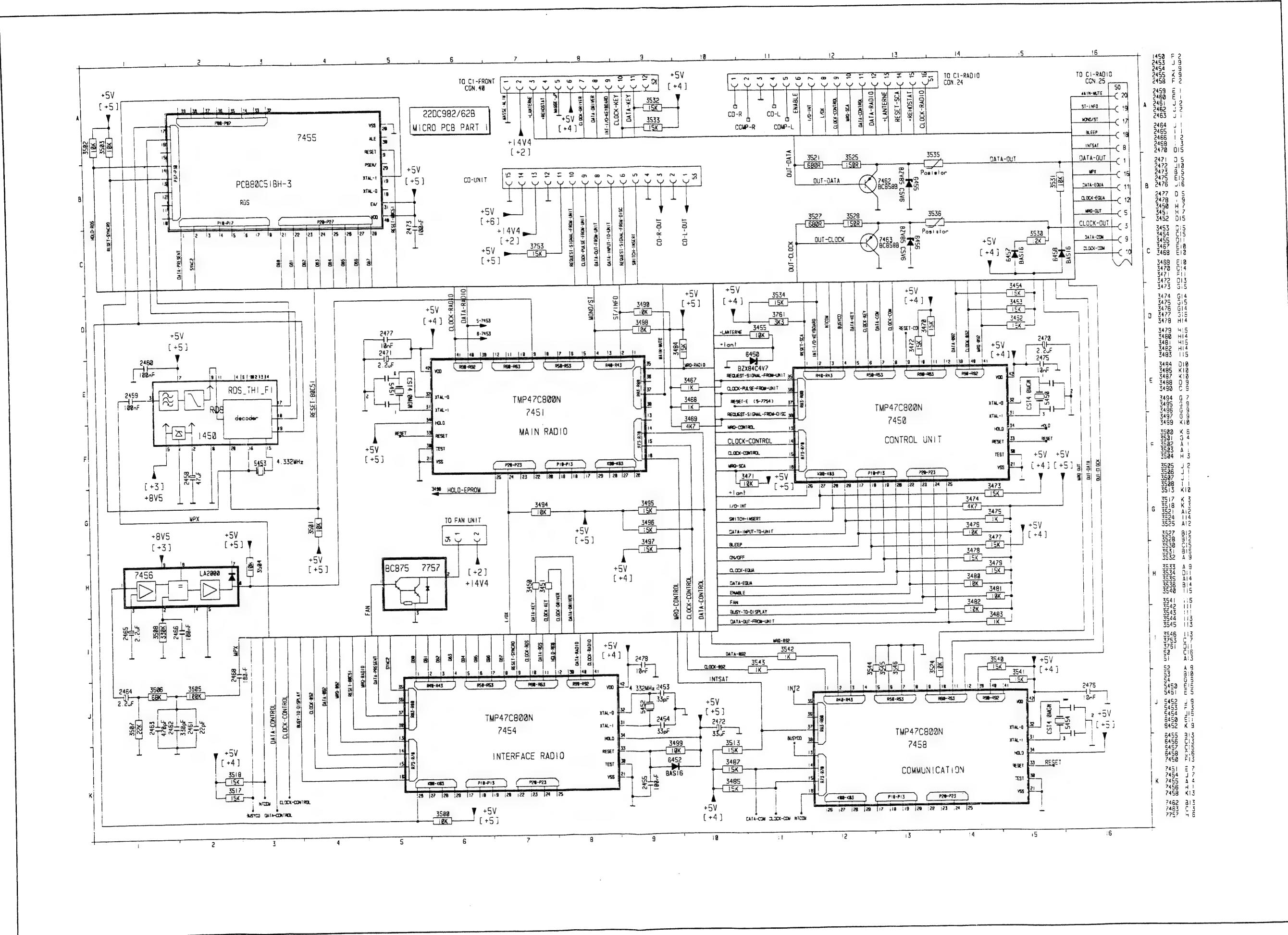
PCB RADIO

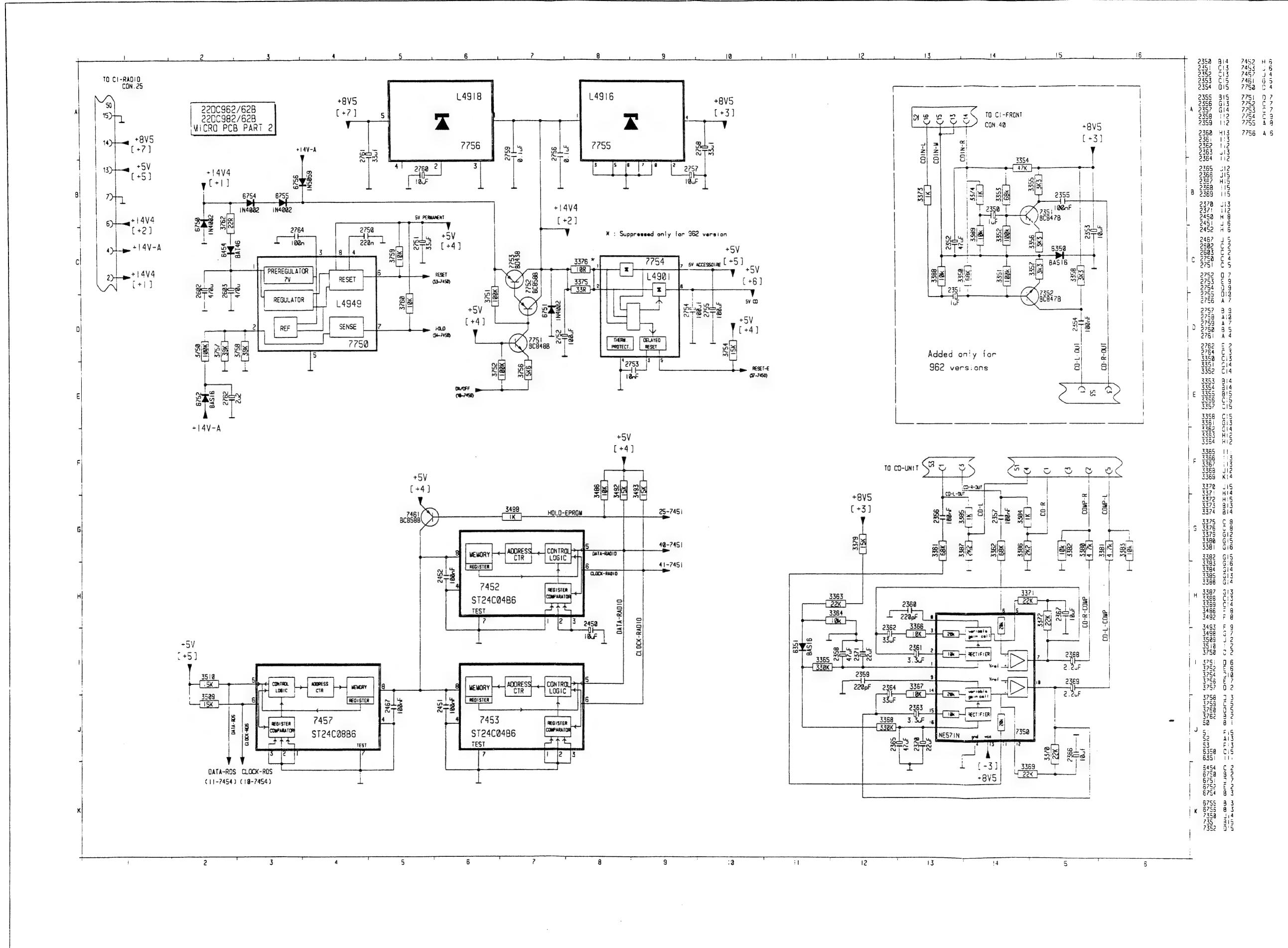


* 22DC962/62E ONLY
22DC982/62E ONLY

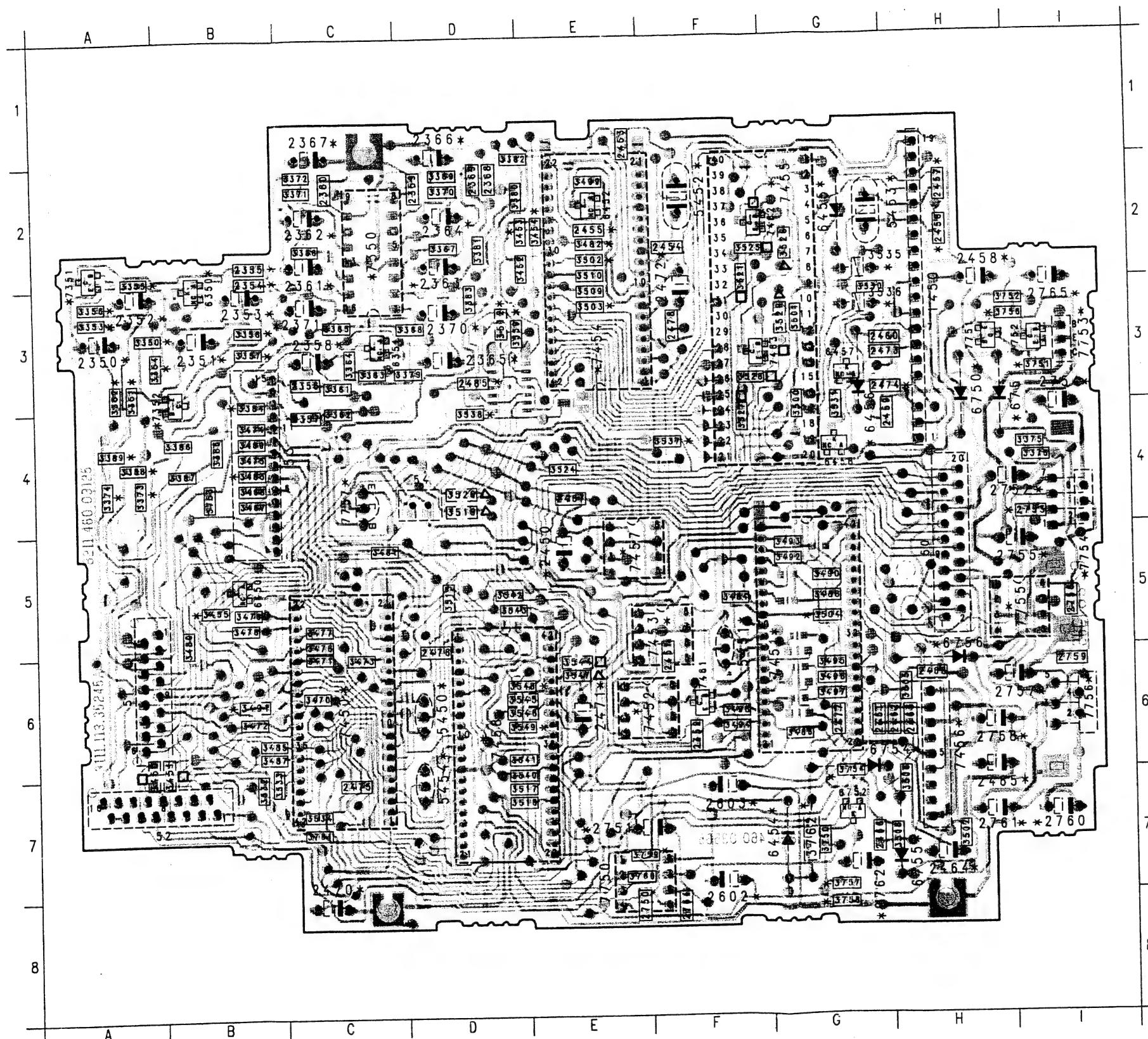
1054	5E	2569	4G	3204	8B	5755	2F
1100	5A	2570	4F	3205	7F	6012	7F
1102	3A	2571	4F	3206	6F	6013	7F
1200	6F	2572	4F	3207	4H	6014	3G
1250	7F	2573	4F	3208	4H	6015	3F
2050	2A	2574	4F	3209	6E	6016	3G
2051	3B	2575	3F	3210	6E	6017	3G
2052	3B	2576	4F	3211	5F	6018	2F
2053	4B	2577	4H	3212	5F	6051	5C
2054	3B	2578	3H	3213	5F	6100	5B
2055	3C	2579	3H	3214	6G	6200	6F
2057	3C	2580	3H	3215	6F	6201	5D
2058	4C	2581	3H	3216	6G	6787	3H
2059	5D	2582	3H	3217	5F	6788	2A
2060	5C	2583	3H	3218	5F	7000	7D
2061	5D	2584	4H	3219	5E	7050	4B
2062	4C	2585	4H	3220	5E	7150	6C
2063	3C	2586	4H	3250	8E	7151	7B
2064	4D	2587	4H	3251	8E	7200	6F
2065	4C	2588	4E	3252	7F	7201	5F
2066	3C	2589	4D	3253	7E	7203	5E
2067	4B	2590	4D	3254	7E	7462	7H
2068	4D	2591	4D	3256	6G	7483	3H
2069	5B	2592	4E	3257	6G	7550	3H
2070	5B	2593	4E	3258	7H	7551	4F
2071	5C	2594	7H	3261	8I	7552	4E
2072	3B	2595	7G	3262	6H	7553	6H
2073	3C	2596	4D	3263	6H	7554	4G
2100	4A	2597	3E	3270	6G	7650	2C
2101	4A	2598	4E	3271	5F	7651	2D
2102	5F	2599	3F	3272	7G	7652	6E
2103	6E	2600	3G	3273	8F	7654	7F
2150	6C	2601	2E	3274	3G	7656	7F
2152	5C	2650	3F	3280	5A	7657	8F
2153	6B	2651	2B	3281	5B	7661	8H
2154	6C	2652	3I	3282	5B	7662	6H
2155	5B	2653	3D	3283	5F	7663	7H
2156	5C	2654	3D	3284	6D		
2157	5B	2655	3D	3285	6D		
2158	6C	2657	2D	3522	7F		
2160	6C	2658	4I	3523	7F		
2163	6D	2659	3F	3550	6H		
2164	5D	2660	3E	3551	5G		
2165	5D	2661	3E	3552	6G		
2167	6D	2672	5G	3553	6H		
2168	6C	2673	5G	3554	5G		
2170	7B	2674	2I	3555	5H		
2171	7B	2675	2I	3556	6G		
2172	7C	2676	2G	3557	5G		
2173	7C	3050	2A	3558	6H		
2174	7B	3051	3B	3559	5H		
2175	7A	3052	5D	3560	5H		
2176	7C	3053	8C	3561	4F		
2177	8B	3054	4C	3562	5G		
2178	5D	3055	4B	3563	3G		
2180	8C	3056	5B	3564	3G		
2200	5D	3057	5E	3565	3G		
2201	6D	3058	2A	3566	4G		
2202	6D	3100	5A	3567	4G		
2204	5E	3101	7B	3568	4G		
2205	5E	3106	7B	3569	4G		
2208	4H	3107	3F	3570	4G		
2209	6F	3108	4F	3571	4G		
2210	5F	3109	7G	3572	4G		
2211	5F	3110	8G	3573	3G		
2213	5G	3111	6D	3574	4H		
2214	6E	3150	5B	3575	7G		
2215	6F	3151	5C	3576	7G		
2216	5F	3153	6C	3651	3F		
2250	7E	3154	6C	3670	7F		
2251	8E	3155	6B	3671	7F		
2252	7E	3156	6B	3672	7F		
2254	7G	3157	5B	3673	6E		
2480	3I	3158	5C	3676	2G		
2481	3I	3159	5D	3680	3G		
2482	8I	3160	6D	3681	3F		
2484	8I	3161	5C	5050	2B		
2550	6I	3162	5C	5051	3A		
2551	6G	3164	7C	5052	3B		
2552	5G	3165	7C	5053	3B		
2553	6I	3170	7B	5054	4D		
2554	5I	3171	7A	5055	4C		
2555	6G	3174	7C	5056	3D		
2556	5G	3175	7C	5057	4C		
2557	6I	3176	5D	5058	3C		
2558	7G	3177	5D	5070	3C		
2559	8F	3178	5E	5071	4B		
2560	3E	3179	5E	5072	4B		
2561	4E	3180	8C	5073	5B		
2562	4F	3190	2I	5100	6B		
2563	3H	3191	2I	5150	6B		
2564	4H	3200	5E	5160	8C		
2565	3G	3201	5E	5161	7C		
2566	3G	3202	5D	5170	7A		
2567	4F	3203	7B	5751	5H		





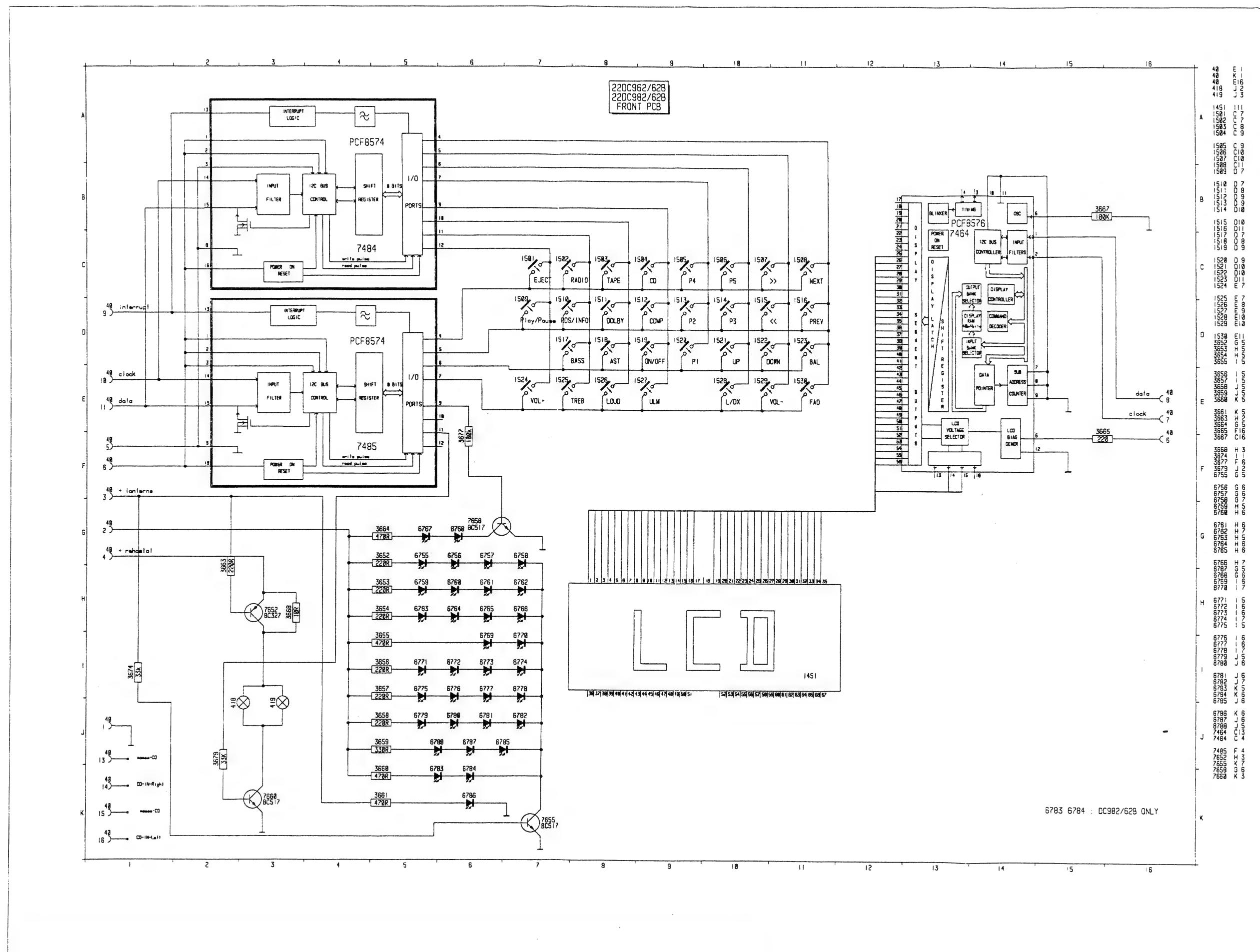


PCB MICRO

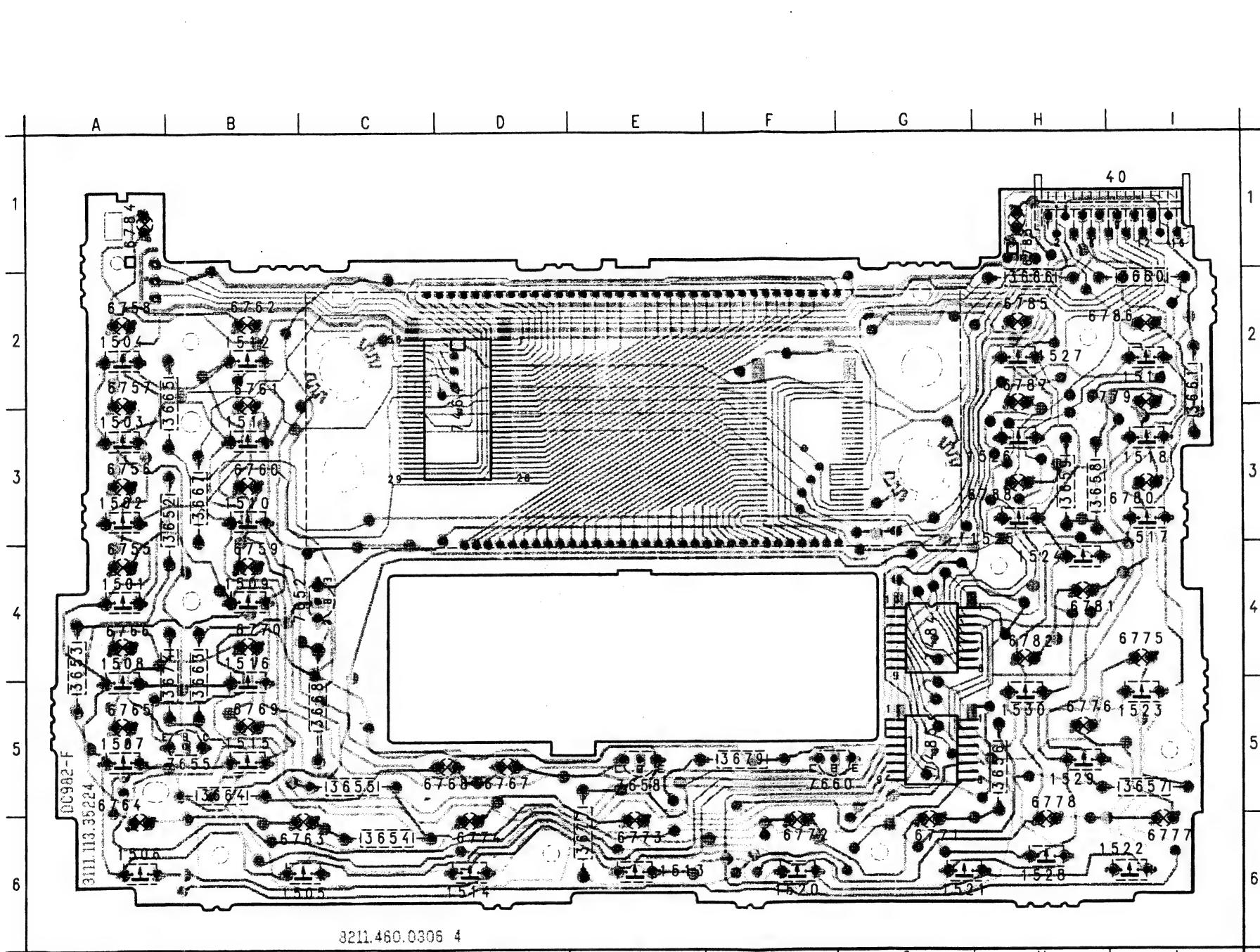


(22DC962 / 62B) ONLY
 (22DC962 / 62E) ONLY
 * (22DC982 / 62B) ONLY

1450	3H	3380	2E	3753	4B
2350	3A	3381	2D	3754	6G
2351	3B	3382	1E	3756	3I
2352	3A	3383	3D	3757	7G
2353	3B	3384	3B	3758	8G
2354	2B	3385	4B	3759	7E
2355	2B	3386	4B	3760	7E
2356	3C	3387	4B	3761	7C
2357	4C	3388	4A	3762	7G
2358	3C	3389	4A	5450	6D
2359	2D	3450	6A	5451	5F
2360	2C	3451	6B	5452	2F
2361	2C	3452	2E	5453	2H
2362	2C	3453	2E	5454	7D
2363	2D	3454	2E	6350	2B
2364	2D	3455	5B	6351	3D
2365	3D	3467	4B	6450	5B
2366	1D	3468	4B	6452	2E
2367	1C	3469	4B	6454	7G
2368	2D	3470	6C	6455	2G
2369	2D	3471	6C	6456	4G
2370	3D	3472	6B	6457	3G
2371	3C	3473	6C	6458	4G
2450	5E	3474	4B	6750	3H
2451	6F	3475	4B	6751	3I
2452	6F	3476	5C	6752	7G
2453	1E	3477	5C	6754	6H
2454	2F	3478	5B	6755	7H
2455	2E	3479	5B	6756	5H
2456	2H	3480	5B	7350	2C
2457	2H	3481	5C	7351	2A
2458	2H	3482	2E	7352	3B
2459	4H	3483	6B	7450	6C
2460	3H	3484	5F	7451	6G
2461	6G	3485	6B	7452	6F
2462	6H	3486	6G	7453	5F
2463	6H	3487	6B	7454	6F
2464	7H	3488	5G	7455	2G
2465	7H	3490	5G	7456	6H
2466	7G	3491	6B	7457	5E
2467	4E	3492	5G	7458	6D
2468	6H	3493	5G	7461	6F
2470	8C	3494	6F	7462	2G
2471	6E	3495	6G	7463	3G
2472	3F	3496	6G	7750	8E
2473	3H	3497	6G	7751	3H
2474	3H	3498	6F	7752	3I
2475	7C	3499	2E	7753	3I
2476	5D	3500	3G	7754	5I
2477	6G	3501	3G	7755	5I
2478	3F	3502	2E	7756	6I
2485	3D	3503	3E	7757	4C
2602	8F	3504	5G		
2603	7F	3505	6H		
2750	8E	3506	7H		
2751	7E	3507	7H		
2752	4I	3508	7H		
2753	4I	3509	3E		
2754	4I	3510	2E		
2755	5I	3512	3D		
2756	5I	3513	5D		
2757	6I	3517	7E		
2758	6H	3518	7E		
2759	6I	3519	4D		
2760	7I	3520	4D		
2761	7H	3521	2F		
2762	8G	3524	4E		
2764	8F	3525	2F		
2765	3I	3526	2G		
3350	3A	3527	4F		
3351	3A	3528	3F		
3352	3A	3529	3G		
3353	3A	3530	3G		
3354	3B	3531	3G		
3355	2A	3532	7B		
3356	3A	3533	7B		
3357	3B	3534	7C		
3358	3B	3535	2H		
3361	3C	3536	3H		
3362	4C	3537	4F		
3363	3C	3538	4D		
3364	3C	3539	3E		
3365	3C	3540	6E		
3366	2C	3541	6E		
3367	2D	3542	5D		
3368	3D	3543	5D		
3369	2D	3544	6E		
3370	2D	3545	6E		
3371	2C	3546	6E		
3372	2C	3547	6E		
3373	4A	3548	6E		
3374	4A	3549	6E		
3375	4I	3750	7G		
3376	4I	3751	3I		
3379	3D	3752	3I		



PCB FRONT



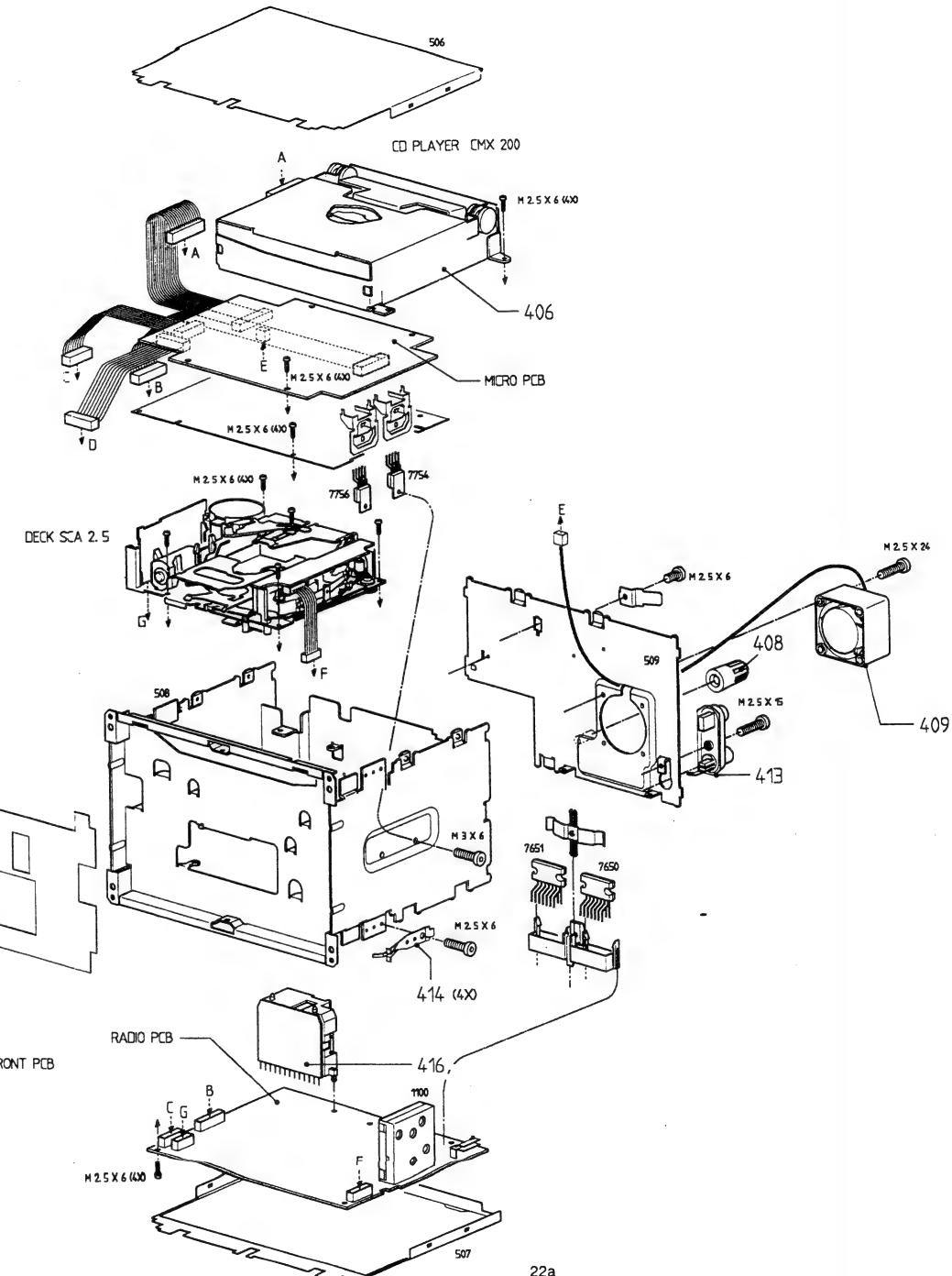
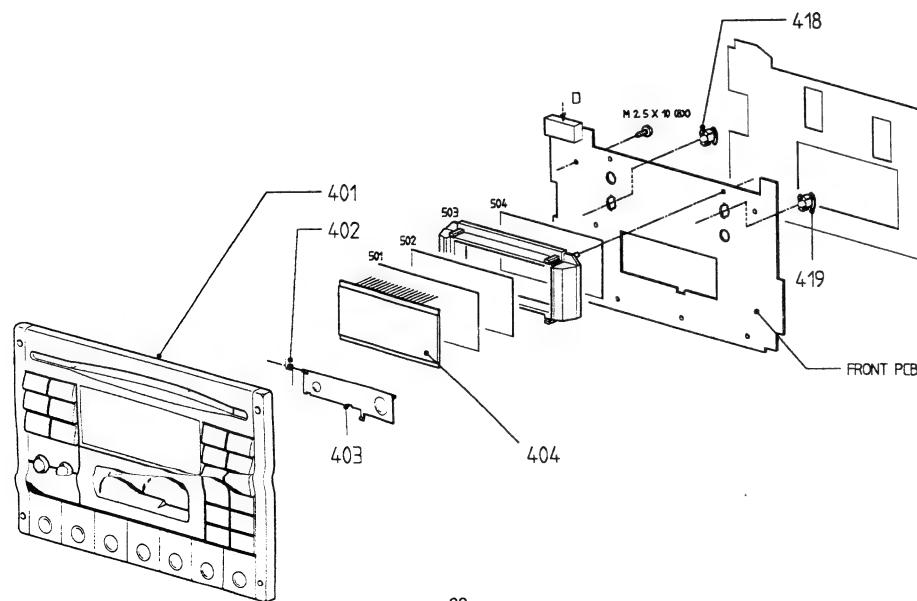
22DC982/62B ONLY

1501	4A
1502	5A
1503	3A
1504	2A
1505	6C
1506	6A
1507	2B
1508	4A
1509	4B
1510	3B
1511	3B
1512	2B
1513	6E
1514	6D
1515	5B
1516	1B
1517	3I
1518	3I
1519	2I
1520	6F
1521	6G
1522	6I
1523	5I
1524	4H
1525	3H
1526	3H
1527	2H
1528	6H
1529	5H
1530	5H
3652	3B
3653	4B
3654	6C
3655	5C
3656	5H
3657	5I
3658	3H
3659	3H
3660	2I
3661	2I
3663	4B
3664	5B
3665	2B
3666	2B
3667	3B
3668	5C
3674	4B
3677	5F
3679	5F
6755	4A
6756	3A
6757	2A
6758	4B
6759	3B
6760	2B
6761	2B
6762	2B
6763	5A
6764	5A
6765	5A
6766	4A
6767	5D
6768	5D
6769	5B
6770	4B
6771	6G
6772	6G
6773	6E
6774	6E
6775	4I
6776	5H
6777	6I
6778	6E
6779	2I
6780	3I
6781	4H
6782	4H
6783	1H
6784	1H
6785	2H
6786	2I
6787	2H
6788	3D
7464	3D
7465	3F
7484	4G
7485	4G
7652	4C
7655	5B
7658	5E
7660	5F

22 DC 982 / 62 B
22 DC 962 / 62 B

MECHANICAL PARTS

Pos	401	4822 459 50657	For 22DC962
	401	4822 459 50656	For 22DC982
	402	4822 492 42231	
	403	4822 443 63509	
	404	4822 130 91051	
	406	4822 691 30254	For 22DC982 only
	408	4822 532 12177	
	409	4822 515 20135	
	413	4822 532 30464	
	414	4822 492 71002	
	416	4822 290 61029	
	418	4822 134 41072	
	419	4822 134 41072	



Miscellaneous		II	
1054	4822 214 51676	I.A.C THICKFILM	2072 4822 122 33175 2,2NF 20% X7R 50V
1100	4822 210 10305	TUNER	2073 4822 122 33175 2,2NF 20% X7R 50V
1200	4822 214 51856	ST.D THICKFILM	2100 4822 122 33555 22NF10%
1250	4822 209 62773	NR9550 THIFI DOLBY	2101 4822 122 33555 22NF10%
1250	4822 214 52082	DBC3 THICKFILM DOLBY	2102 4822 124 41969 1μF 20% 50V
1450	4822 214 52083	RDS5 THICKFILM	2103 4822 124 23768 220μF 20% 10V
1501	4822 276 13103	SWITCH	2150 4822 122 33496 100NF10%X7R 63V
1502	4822 276 13103	SWITCH	2152 4822 122 32542 47NF10%X7R 63V
1503	4822 276 13103	SWITCH	2153 4822 122 33515 82PF 5%NP0 63V
1504	4822 276 13103	SWITCH	2154 4822 122 33555 22NF10%
1505	4822 276 13103	SWITCH	2155 4822 122 33496 100NF10%X7R 63V
1506	4822 276 13103	SWITCH	2156 4822 122 33555 22NF10%
1507	4822 276 13103	SWITCH	2157 4822 124 40272 33μF20% 16V
1508	4822 276 13103	SWITCH	2158 4822 122 33514 68PF 5%NP0 50V
1509	4822 276 13103	SWITCH	2160 5322 126 10223 4,7NF 10% X7R 50V
1510	4822 276 13103	SWITCH	2163 4822 124 40244 2,2μF20% 63V
1511	4822 276 13103	SWITCH	2164 4822 122 33175 2,2NF 20% X7R 50V
1512	4822 276 13103	SWITCH	2165 4822 122 32542 47NF 10% X7R 1206
1513	4822 276 13103	SWITCH	2167 5322 126 10223 4,7NF 20% X7R 63V
1514	4822 276 13103	SWITCH	2168 4822 122 33283 150PF 5%NP0 50V
1515	4822 276 13103	SWITCH	2170 4822 122 33555 22NF10%
1516	4822 276 13103	SWITCH	2171 5322 122 31866 6,8NF10%X7R 63V
1517	4822 276 13103	SWITCH	2172 4822 122 32891 68NF10%X7R 63V
1518	4822 276 13103	SWITCH	2173 4822 121 51252 470NF 5% 63V
1519	4822 276 13103	SWITCH	2174 4822 122 33555 22NF10%
1520	4822 276 13103	SWITCH	2175 4822 124 40272 33μF20% 16V
1521	4822 276 13103	SWITCH	2176 4822 124 40272 33μF20% 16V
1522	4822 276 13103	SWITCH	2177 4822 122 33283 150PF 5%NP0 50V
1523	4822 276 13103	SWITCH	2178 4822 122 33496 100NF10%X7R 63V
1524	4822 276 13103	SWITCH	2180 4822 122 33177 10NF 20% X7R 50V
1525	4822 276 13103	SWITCH	2200 4822 122 33496 100NF10%X7R 63V
1526	4822 276 13103	SWITCH	2201 4822 124 40272 33μF20% 16V
1527	4822 276 13103	SWITCH	2202 4822 124 41969 1μF 20% 50V
1528	4822 276 13103	SWITCH	2204 4822 124 23432 100μF20% 10V
1529	4822 276 13103	SWITCH	2205 4822 124 22403 10μF 20% 16V
1530	4822 276 13103	SWITCH	2208 4822 122 33555 22NF10%
			2209 4822 122 33585 3,3NF10%
			2210 4822 122 33585 3,3NF10%
			2211 4822 124 40272 33μF20% 16V
			2213 4822 122 33585 3,3NF10%
2050	5322 122 31647	1NF10%X7R 63V	
2051	5322 122 32286	3,3PF 5%NP0 50V	
2052	5322 122 32287	4,7PF 5%NP0 50V	
2053	5322 122 32965	18PF 5%NP0 50V	
2054	5322 122 31863	330PF 5%NP0 50V	
2055	5322 122 31863	330PF 5%NP0 50V	
2057	5322 122 34098	10NF 10% X7R 0805	
2058	4822 122 33496	100NF10%X7R 63V	
2059	4822 124 41796	22μF20% 16V	
2060	4822 122 33283	150PF 5%NP0 50V	
2061	4822 122 33555	22NF10%	
2062	4822 122 33175	2,2NF 20% X7R 50V	
2063	4822 124 41969	1μF20% 50V	
2064	4822 124 40272	33μF20% 16V	
2065	4822 122 33496	100NF10%X7R 63V	
2066	5322 122 32658	22PF 5% 50V	
2067	4822 122 33496	100NF10%X7R 63V	
2068	4822 124 23624	47μF20% 16V	
2069	5322 126 10223	4,7NF10%X7R 63V	
2070	4822 122 33496	100NF10%X7R 63V	
2071	4822 122 33555	22NF10%	
			2350# 4822 124 41969 1μF20% 50V
			2351# 4822 124 41969 1μF20% 50V
			2352# 4822 124 23624 47μF20% 16V
			2353# 4822 124 22403 10μF 20% 16V
			2354# 4822 122 33496 100NF10%X7R 63V
			2355# 4822 122 33496 100NF10%X7R 63V
			2356# 4822 122 33496 100NF10%X7R 63V
			2357# 4822 122 33496 100NF10%X7R 63V
			2358# 4822 124 23624 47μF20% 16V
			2359# 4822 122 33584 220PF 5%

22DC962/62B 22DC982/62B

23

II		II	
2360	4822 122 33584	220PF 5%	2570 4822 122 33128 15NF 10% X7R 0805
2361	4822 124 23767	3,3μF20% 50V	2571 4822 122 32891 68NF 10% X7R 1206
2362	4822 124 40272	33μF20% 16V	2572 5322 126 10223 4N7 10% X7R 0805
2363	4822 124 23767	3,3μF20% 50V	2573 4822 122 33555 22NF 10% X7R 0805
2364	4822 124 40272	33μF20% 16V	2574 5322 122 31647 1NF 10% X7R 1206
2365	4822 124 23624	47μF20% 16V	2575 5322 122 31866 6N8 10% X7R 0805
2366	4822 124 22403	10μF 20% 16V	2576 5322 122 31863 330P 5% NP0 0805
2367	4822 124 22403	10μF 20% 16V	2577 4822 124 41969 1μF 20% 50V
2368	4822 124 11355	SMC 2,2μF 6,3V 20%	2578 4822 122 33496 100NF10%X7R 63V
2369	4822 124 11355	SMC 2,2μF 6,3V 20%	2579 5322 121 42661 330NF 10% 63V
2370	4822 124 41796	22μF20% 16V	2580 4822 122 32891 6N8 10% X7R 1206
2371	4822 124 41796	22μF20% 16V	2581 4822 122 33128 15N 10% X7R 0805
2450	4822 124 22403	10μF 20% 16V	2582 4822 122 32891 68N 10% X7R 1206
2451	4822 122 33496	100NF10%X7R 63V	2583 5322 126 10223 4N7 10% X7R 0805
2452	4822 122 33496	100NF10%X7R 63V	2584 4822 122 33555 22N 10% X7R 0805
2453	5322 122 32659	33PF 5% 50V	2585 5322 122 31647 1N 10% X7R 1206
2454	5322 122 32659	33PF 5% 50V	2586 5322 122 31866 6N8 10% X7R 0805
2455	4822 122 33496	100NF10%X7R 63V	2587 5322 122 31863 330P 5% NP0 0805
2456	4822 124 23624	47μF20% 16V	2588 4822 122 31981 33NF-0.5PF 50V
2457	4822 122 33496	100NF10%X7R 63V	2589 4822 122 31981 33NF-0.5PF 50V
2460	4822 122 33496	100NF10%X7R 63V	2590 4822 122 33585 3,3NF10%
2461	5322 122 32658	22PF 5% 50V	2591 4822 122 33175 2,2NF 20% X7R 50V
2462	5322 122 31863	330PF 5%NP0 50V	2592 4822 122 33585 3,3NF10%
2463	5322 122 32268	470PF 10% 50V	2593 4822 122 33175 2,2NF 20% X7R 50V
2464	4822 124 40244	2,2μF20% 63V	2594 4822 124 22403 10μF 20% 16VV
2465	4822 124 40244	2,2μF20% 63V	2595 4822 122 31981 33NF 10% X7R 1206
2466	4822 122 33496	100NF10%X7R 63V	2596 4822 124 41796 22μF20% 16V
2467	4822 122 33496	100NF10%X7R 63V	2597 4822 124 23432 100μF 20% 10V
2468	4822 122 33496	100NF 10% 63V 1206	2598 4822 122 33325 470NF -80-20% 1206
2470	4822 124 40244	2,2μF20% 63V	2599 4822 122 33325 470NF +80-20% 1206
2471	4822 124 40244	2,2μF20% 63V	2600 4822 122 31981 33NF 10% X7R 1206
2472	4822 124 40272	33μF 20% 16V	2601 4822 124 40201 1000μF 20% 16V
2473	4822 122 33496	100NF10%X7R 63V	2602 4822 124 41009 470μF 20% 16V
2475	4822 122 33177	10NF 10% X7R 0805	2603 4822 124 41009 470μF 20% 16V
2476	4822 122 33177	10NF 10% X7R 0805	2650 4822 124 22403 10μF 20% 16V
2477	4822 122 33177	10NF 10% X7R 0805	2651 4822 122 33496 100NF10%X7R 63V
2478	4822 122 33177	10NF 10% X7R 0805	2652 4822 124 22412 2200μF 20% 16V
2480	4822 122 33555	22NF10%	2653 5322 124 41948 470N+20% 50V
2481	4822 122 33555	22NF10%	2654 5322 124 41948 470N+20% 50V
2482	5322 122 32448	10PF 5% 50V	2655 4822 124 23624 47μF20% 16V
2484	5322 122 32448	10PF 5% 50V	2657 4822 122 33496 100NF10%X7R 63V
2550	4822 124 41969	1μF 20% 50V	2658 4822 124 22412 2200μF 20% 16V
2551	4822 124 41969	1μF 20% 50V	2659 5322 124 41948 470N+20% 50V
2552	4822 124 41969	1μF 20% 50V	2660 5322 124 41948 470N+20% 50V
2553	4822 124 41969	1μF 20% 50V	2661 4822 124 23624 47μF20% 16V
2554	4822 124 41969	1μF 20% 50V	2672 4822 122 33128 15NF10%X7R 63V
2555	4822 124 41969	1μF 20% 50V	2673 4822 122 33128 15NF10%X7R 63V
2556	4822 124 41969	1μF 20% 50V	2674 4822 122 33496 100NF10%X7R 63V
2557	4822 124 41969	1μF 20% 50V	2675 4822 122 33496 100NF10%X7R 63V
2558	4822 122 33128	15NF10%X7R 63V	2750 4822 122 32916 220NF 20% X7R 1210
2559	4822 122 33128	15NF10%X7R 63V	2751 4822 124 40272 33μF20% 16V
2560	4822 124 23624	47μF 20% 16V	2752 4822 124 41643 100μF 20% 16V
2561	4822 124 41796	22μF 20% 16V	2753 4822 122 33177 10NF 20% X7R 50V
2562	5322 122 31647	1NF 10% X7R 1206	2754 4822 124 23432 100μF 20% 10V
2563	5322 122 31647	1NF 10% X7R 1206	2755 4822 124 23432 100μF 20% 10V
2564	4822 124 23624	47μF 20% 16V	2756 4822 122 33496 100NF10%X7R 63V
2565	4822 124 41796	22μF 20% 16V	2757 4822 124 22403 10μF 20% 16V
2566	4822 124 41969	1μF 20% 50V	2758 4822 124 40272 33μF 20% 10V
2567	4822 122 32891	68NF 10% X7R 1206	2759 4822 122 33496 100NF10%X7R 63V
2569	5322 121 42661	330NF 10% 63V	2760 4822 124 22403 10μF 20% 16V

22DC962/62B 22DC982/62B

23a

PCS 67 823

2761	4822 124 40272	33uF 20% 16V	3215	4822 051 20681	680Ω00 5% 0,1W
2762	4822 124 40244	2,2μF 20% 50V	3216	4822 051 20333	33KΩ00 5% 0,1W
2764	4822 122 33496	100nF 10% 63V 1206	3217	4822 051 20153	15KΩ00 5% 0,1W
			3218	4822 051 20471	470Ω00 5% 0,1W
			3219	4822 051 20479	47Ω00 5% 0,1W
3050	4822 051 20471	470Ω00 5% 0,1W	3220	4822 051 20332	3KΩ30 5% 0,1W
3051	4822 051 20471	470Ω00 5% 0,1W	3250	4822 051 20222	2KΩ20 5% 0,1W
3052	4822 051 20224	220KΩ 5% 0,1W	3251	4822 100 11319	4KΩ7
3053	4822 051 20472	4KΩ70 5% 0,1W	3252	4822 051 20109	10Ω 5% 0,1W
3054	4822 051 20102	1KΩ00 5% 0,1W	3253	4822 051 20222	2KΩ20 5% 0,1W
3055	4822 051 20102	1KΩ00 5% 0,1W	3254	4822 100 11319	4KΩ7
3056	4822 051 20223	22KΩ00 5% 0,1W	3255	4822 051 20103	10KΩ00 5% 0,1W
3057	4822 051 20224	220KΩ00 5% 0,1W	3256	4822 051 20472	4KΩ7 5% 0805
3058	4822 051 20101	100Ω00 5% 0,1W	3257	4822 051 20472	4KΩ7 5% 0805
3100	4822 051 20103	10KΩ00 5% 0,1W	3258	4822 051 20103	10KΩ00 5% 0,1W
3101	4822 051 20102	1KΩ00 5% 0,1W	3261	4822 051 20104	100KΩ 5% 0805
3106	4822 051 20221	220Ω00 5% 0,1W	3262	4822 051 20473	47KΩ 5% 0805
3109	4822 051 20152	1KΩ5 5% 0,1W	3263	4822 051 20104	100KΩ 5% 0805
3110	4822 051 20152	1KΩ5 5% 0,1W	3270	4822 051 20152	1KΩ50 5% 0,1W
3111	4822 051 10008	0Ω00 5% 0,25W	3271	4822 051 20152	1KΩ50 5% 0,1W
3150	4822 051 20102	1KΩ00 5% 0,1W	3272	4822 051 20332	3KΩ3 5% 0,1W
3151	4822 051 20331	33Ω000 5% 0,1W	3273	4822 051 20332	3KΩ3 5% 0,1W
3153	4822 051 20332	3KΩ30 5% 0,1W	3274	4822 051 20222	2KΩ2 5% 0805
3154	4822 051 20109	10Ω00 5% 0,1W	3280	4822 051 20569	56Ω 5% 0805
3155	4822 100 20166	10KΩ30%LIN 0,1W	3281	4822 051 20569	56Ω 5% 0805
3156	4822 051 20332	3KΩ30 5% 0,1W	3282	4822 051 20102	1KΩ 5% 0805
3157	4822 100 20166	10KΩ 30%LIN 0,1W	3283	4822 051 20103	10KΩ 5% 0805
3158	4822 051 20109	10Ω00 5% 0,1W	3284	4822 051 20103	10KΩ 5% 0805
3159	4822 051 20472	4KΩ70 5% 0,1W	3285	4822 051 20224	220KΩ 5% 0805
3160	4822 051 20221	220Ω00 5% 0,1W	3350#	4822 051 20683	68KΩ00 5% 0,1W
3161	4822 051 20152	1KΩ50 5% 0,1W	3351#	4822 051 20103	10KΩ00 5% 0,1W
3162	4822 051 20152	1KΩ50 5% 0,1W	3352#	4822 051 20103	10KΩ00 5% 0,1W
3164	4822 051 20333	33KΩ00 5% 0,1W	3353#	4822 051 20683	68KΩ00 5% 0,1W
3165	4822 051 20222	2KΩ20 5% 0,1W	3354#	4822 051 20473	47KΩ 5% 0805
3170	4822 051 20103	10KΩ00 5% 0,1W	3355#	4822 051 20332	3KΩ3 5% 0,1W
3171	4822 051 20223	22KΩ00 5% 0,1W	3356#	4822 051 20332	3KΩ3 5% 0,1W
3174	4822 051 20333	33KΩ00 5% 0,1W	3357#	4822 051 20332	3KΩ3 5% 0,1W
3175	4822 051 20333	33KΩ00 5% 0,1W	3358#	4822 051 20332	3KΩ3 5% 0,1W
3176	4822 051 20333	33KΩ00 5% 0,1W	3361	4822 051 20683	68KΩ00 5% 0,1W
3177	4822 051 20472	4KΩ70 5% 0,1W	3362	4822 051 20683	68KΩ00 5% 0,1W
3178	4822 051 20471	470Ω00 5% 0,1W	3363	4822 051 20223	22KΩ00 5% 0,1W
3179	4822 051 20221	220Ω00 5% 0,1W	3364	4822 051 20103	10KΩ00 5% 0,1W
3180	4822 051 20103	10KΩ00 5% 0,1W	3365	4822 051 20334	330KΩ00 5% 0,1W
3190	4822 051 20101	100Ω00 5% 0,1W	3366	4822 051 20103	10KΩ00 5% 0,1W
3191	4822 051 20101	100Ω00 5% 0,1W	3367	4822 051 20103	10KΩ00 5% 0,1W
3200	4822 051 20154	150KΩ00 5% 0,1W	3368	4822 051 20334	330KΩ00 5% 0,1W
3201	4822 051 20474	470KΩ00 5% 0,1W	3369	4822 051 20223	22KΩ00 5% 0,1W
3202	4822 051 20109	10Ω00 5% 0,1W	3370	4822 051 20223	22KΩ00 5% 0,1W
3203	4822 051 20225	2M2 5% 0,1W	3371	4822 051 20223	22KΩ00 5% 0,1W
3204	4822 051 20225	2M2 5% 0,1W	3372	4822 051 20223	22KΩ00 5% 0,1W
3205	4822 051 20109	10Ω00 5% 0,1W	3373#	4822 051 20102	1KΩ 5% 0805
3206	4822 051 20109	10Ω00 5% 0,1W	3374#	4822 051 20102	1KΩ 5% 0805
3207	4822 051 20105	1M 5% 0805	3375	4822 051 20339	330KΩ00 5% 0,1W
3208	4822 051 20105	1M 5% 0805	3376*	4822 051 20109	10Ω00 5% 0,1W
3209	4822 051 20473	47KΩ00 5% 0,1W	3379	4822 051 20153	15KΩ00 5% 0,1W
3210	4822 051 20333	33KΩ00 5% 0,1W	3380	4822 051 20472	4KΩ7 5% 0,1W
3211	4822 051 20153	15KΩ00 5% 0,1W	3381	4822 051 20472	4KΩ7 5% 0,1W
3212	4822 051 20153	15KΩ00 5% 0,1W	3382	4822 051 20103	10KΩ 5% 0,1W
3213	4822 051 20472	4KΩ70 5% 0,1W	3383	4822 051 20103	10KΩ 5% 0,1W
3214	4822 051 20333	33KΩ 5% 0,05	3384	4822 051 20102	1KΩ 5% 0805

3385	4822 051 20102	1KΩ 5% 0805	3523	4822 051 20103	10KΩ 5% 0,1W
3386	4822 051 20222	2KΩ2 5% 0805	3524	4822 051 20103	10KΩ00 5% 0,1W
3387	4822 051 20222	2KΩ2 5% 0805	3525	4822 051 20151	15Ω 5% 0,1W
3388#	4822 051 20103	10KΩ00 5% 0,1W	3527	4822 051 20681	68Ω 5% 0,1W
3389#	4822 051 20103	10KΩ00 5% 0,1W	3528	4822 051 20151	15Ω 5% 0,1W
3450	4822 051 20008	JUMPER OΩ05	3530	4822 051 20103	10KΩ00 5% 0,1W
3451	4822 051 10008	CHIP JUMPER	3531	4822 051 20103	10KΩ00 5% 0,1W
3452	4822 051 20153	15KΩ00 5% 0,1W	3532	4822 051 20153	15KΩ00 5% 0,1W
3453	4822 051 20153	15KΩ00 5% 0,1W	3533	4822 051 20153	15KΩ00 5% 0,1W
3454	4822 051 20153	15KΩ00 5% 0,1W	3534	4822 051 20153	15KΩ00 5% 0,1W
3455	4822 051 20103	10KΩ00 5% 0,1W	3535	4822 116 40221	POSIST PTH60G31AR802
3467*	4822 051 20102	1KΩ00 5% 0,1W	3536	4822 116 40221	POSIST PTH60G31AR802
3468*	4822 051 20102	1KΩ00 5% 0,1W	3540	4822 051 20153	15KΩ00 5% 0,1W
3469*	4822 051 20472	4KΩ70 5% 0,1W	3541	4822 051 20153	15KΩ00 5% 0,1W
3470	4822 051 20153	15KΩ 5% 0805	3542	4822 051 20102	1KΩ00 5% 0,1W
3471	4822 051 20103	10KΩ00 5% 0,1W	3543	4822 051 20102	1KΩ00 5% 0,1W
3472*	4822 051 20153	15KΩ00 5% 0,1W	3544	4822 051 10008	CHIP JUMPER
3473	4822 051 20153	15KΩ00 5% 0,1W	3545	4822 051 10008	0Ω00 5% 0,25W
3474*	4822 051 20472	4KΩ70 5% 0,1W	3546	4822 051 10008	0Ω00 5% 0,25W
3475*	4822 051 20102	1KΩ00 5% 0,1W	3550	4822 051 20104	100KΩ 5% 0805
3476	4822 051 20103	10KΩ00 5% 0,1W	3551	4822 051 20104	100KΩ 5% 0805
3477	4822 051 20153	15KΩ00 5% 0,1W	3552	4822 051 20104	100KΩ 5% 0805
3478	4822 051 20153	15KΩ00 5% 0,1W	3553	4822 051 20104	100KΩ 5% 0805
3479	4822 051 20153	15KΩ00 5% 0,1W	3554	4822 051 20104	100KΩ 5% 0805
3480	4822 051 20103	10KΩ00 5% 0,1W	3555	4822 051 20104	100KΩ 5% 0805
3481	4822 051 20103	10KΩ00 5% 0,1W	3556	4822 051 20104	100KΩ 5% 0805
3482	4822 051 20103	10KΩ00 5% 0,1W	3557	4822 051 20104	100KΩ 5% 0805
3483*	4822 051 20102	1KΩ00 5% 0,1W	3558	4822 051 20104	100KΩ 5% 0805
3484	4822 051 20153	15KΩ00 5% 0,1W	3559	4822 051 20104	100KΩ 5% 0805
3485	4822 051 20153	15KΩ00 5% 0,1W	3560	4822 051 20472	4KΩ70 5% 0,1W
3486	4822 051 20103	10KΩ00 5% 0,1W	3561	4822 051 20151	150Ω 5% 0805
3487	4822 051 20153	15KΩ00 5% 0,1W	3562	4822 051 20472	4KΩ70 5% 0,1W
3488	4822 051 20103	10KΩ00 5% 0,1W	3563	4822 051 20105	1M 5% 0805
3489	4822 051 20103	10KΩ00 5% 0,1W	3564	4822 051 20105	1M 5% 0805
3490	4822 051 20103	10KΩ00 5% 0,1W	3565	4822 051 20105	1M 5% 0805
3491*	4822 051 10008	CHIP JUMPER	3566	4822 051 20105	1M 5% 0805
3492	4822 051 20153	15KΩ00 5% 0,1W	3567	4822 051 20105	1M 5% 0805
3493	4822 051 20153	15KΩ00 5% 0,1W	3568	4822 051 20105	1M 5% 0805
3494	4822 051 20103	10KΩ00 5% 0,1W	3570	4822 051 20105	1M 5% 0805
3495	4822 051 20153	15KΩ00 5% 0,1W	3571	4822 051 20105	1M 5% 0805
3496	4822 051 20153	15KΩ00 5% 0,1W	3572	4822 051 20105	1M 5% 0805
3497	4822 051 20153	15KΩ00 5% 0,1W	3573	4822 051 20105	1M 5% 0805
3498	4822 051 20102	1KΩ00 5% 0,1W	3574	4822 051 20151	150Ω 5% 0805
3499	4822 051 20103	10KΩ00 5% 0,1W	3575	4822 051 20103	10KΩ 5% 0,1W
3500	4822 051 20103	10KΩ00 5% 0,1W	3576	4822 051 20333	33KΩ 5% 0,1W
3501	4822 051 20103	10KΩ00 5% 0,1W	3651	4822 051 20103	10KΩ 5% 0805
3502	4822 051 20103	10KΩ00 5% 0,1W	3652	4822 116 52215	220E 5% 0,5W
3503	4822 051 20103	10KΩ00 5% 0,1W	3653	4822 116 52215	220E 5% 0,5W
3504	4822 051 20103	10KΩ00 5% 0,1W	3654	4822 116 52215	220E 5% 0,5W
3505	4822 051 20104	100KΩ00 5% 0,1W	3655	4822 050 24701	470Ω 1% 0,6W
3506	4822 051 20683	68KΩ00 5% 0,1W	3656	4822 116 52215	220E 5% 0,5W
3507	4822 051 20223	22KΩ00 5% 0,1W	3657	4822 116 52215	220E 5% 0,5W
3508	4822 051 20334	330KΩ00 5% 0,1W	3658</td		

[Image]			[Image]		
3667	4822 116 52252	180KΩ 5% 0,5W	6051	4822 130 82596	BB419
3668	4822 053 11109	10Ω 5% 2W	6100	5322 130 31928	BAS16
3670	4822 051 20222	2KΩ20 5% 0,1W	6200	5322 130 31928	BAS16
3671	4822 051 20103	10KΩ20 5% 0,1W	6201	5322 130 31928	BAS16
3672	4822 051 20104	100KΩ20 5% 0,1W	6350	5322 130 31928	BAS16
3673	4822 116 40219	PTH59F04BH471TS	6351	5322 130 31928	BAS16
3674	4822 050 24703	47KΩ 5% R25J	6450	5322 130 31937	BZX84-C4V7
3676	4822 116 40221	8Ω2 20%	6452	5322 130 31928	BAS16
3677	4822 116 52234	100KΩ 5% R25J	6454	4822 130 80968	RD4.7JSB1
3679	4822 116 52271	33KΩ 5% 0,5W	6457	5322 130 31928	BAS16
3680	4822 051 20103	10KΩ20 5% 0,1W	6458	5322 130 31928	BAS16
3681	4822 051 20104	100KΩ 5% 0805	6750	5322 130 30684	1N4002
3750	4822 051 20104	100KΩ 5% 0,1W	6751	5322 130 30684	1N4002
3751	4822 051 20104	100KΩ20 5% 0,1W	6752	5322 130 31928	BAS16
3752	4822 051 20104	100KΩ20 5% 0,1W	6754	5322 130 30684	1N4002
3753*	4822 051 20153	15KΩ20 5% 0,1W	6755	4822 130 82595	TLHO4400AS12Z
3754	4822 051 20153	15KΩ20 5% 0,1W	6755	5322 130 30684	1N4002
3756	4822 051 20562	5,6KΩ 5% 0,1W	6756	4822 130 82595	TLHO4400AS12Z
3757	4822 051 20393	39KΩ 5% 0,1W	6756	5322 130 34459	1N5059
3758	4822 051 20393	39KΩ 5% 0,1W	6757	4822 130 82595	TLHO4400AS12Z
3759	4822 051 20103	10KΩ 5% 0805	6758	4822 130 82595	TLHO4400AS12Z
3760	4822 051 20103	10KΩ 5% 0805	6759	4822 130 82595	TLHO4400AS12Z
3761	4822 051 20332	3,3KΩ 5% 0,1W	6760	4822 130 82595	TLHO4400AS12Z
3762	4822 116 52186	22Ω 5% R25J	6761	4822 130 82595	TLHO4400AS12Z
6762			6762	4822 130 82595	TLHO4400AS12Z
5050	4822 152 20677	10μH 10%	6763	4822 130 82595	TLHO4400AS12Z
5051	4822 152 20677	10μH 10%	6764	4822 130 82595	TLHO4400AS12Z
5052	4822 157 52007	4,7μH 10%	6765	4822 130 82595	TLHO4400AS12Z
5053	4822 152 20678	33μH	6766	4822 130 82595	TLHO4400AS12Z
5054	4822 157 50975	1 MH	6767	4822 130 82604	TLPO 5600
5055	4822 152 20682	6,15μH 6%	6768	4822 130 82604	TLPO 5600
5056	4822 152 20678	33μH	6769	4822 130 82595	TLHO4400AS12Z
5057	4822 152 20683	28μH 2,52MHz	6770	4822 130 82595	TLHO4400AS12Z
5058	4822 152 20679	68μH 10%	6771	4822 130 82595	TLHO4400AS12Z
5070	4822 242 72076	10T7BB(10,7MHz)	6772	4822 130 82595	TLHO4400AS12Z
5071	4822 242 72076	10T7BB(10,7MHz)	6773	4822 130 82595	TLHO4400AS12Z
5072	4822 242 71883	SFE10,7MS318-D	6774	4822 130 82595	TLHO4400AS12Z
5073	4822 242 71883	SFE10,7MS318-D	6775	4822 130 82595	TLHO4400AS12Z
5100	4822 242 80258	SFE10,7MS2A-TF20	6776	4822 130 82595	TLHO4400AS12Z
5150	4822 156 11081	1,47μH 10,7MHz	6777	4822 130 82595	TLHO4400AS12Z
5160	4822 157 51503	560μH10%	6778	4822 130 82595	TLHO4400AS12Z
5161	4822 157 50975	1 MH	6779	4822 130 82595	TLHO4400AS12Z
5170	4822 242 71874	4,000 000 MC	6780	4822 130 82595	TLHO4400AS12Z
5450	4822 242 72527	CST4,00MGW-TF01	6781	4822 130 82595	TLHO4400AS12Z
5451	4822 242 72527	CST4,00MGW-TF01	6782	4822 130 82595	TLHO4400AS12Z
5452	4822 242 80259	LN-G8-311(TPR11)	6783*	4822 130 82595	TLHO4400AS12Z
5453	4822 242 80259	LN-G8-311(TPR11)	6784*	4822 130 82595	TLHO4400AS12Z
5454	4822 242 72527	CST4,00MGW-TF01	6785	4822 130 82595	TLHO4400AS12Z
5751	4822 157 50975	1000μH 10%	6786	4822 130 82595	TLHO4400AS12Z
5755	4822 157 53669	COIL FILTER CU15B2	6787	4822 130 82465	1.5KE27P
6012	5322 130 31928	BAS16	6787	4822 130 82595	TLHO4400AS12Z
6013	5322 130 31928	BAS16	6788	4822 130 82595	TLHO4400AS12Z
6014	5322 130 41983	BC858B	6788	4822 252 60125	SURGE PROTECTOR
6015	5322 130 80214	BAS28	7050	4822 209 72247	TEA6200/V2
6016	5322 130 31937	BZX84B-4V7	7150	4822 209 73507	TEA6100/N3
6017	5322 130 41982	BC848B	7151	4822 209 61954	TS46057/C7
			7200	5322 130 41983	BC858B
			7201	5322 130 41983	BC858B

7203	4822 130 60511	BC847B
7350	4822 209 63906	SA571N
7351#	4822 130 60511	BC847B
7352#	4822 130 60511	BC847B
7450	4822 900 10369	CONTROL
7451	4822 900 10365	MAIN RADIO
7452	4822 900 10271	MAIN
7453	4822 900 10267	SEC CODE
7454	4822 900 10364	INTERFACE
7455	4822 209 31138	PCF80C51BH-3P/J306
7456	4822 209 83159	LA2000
7457	4822 900 10265	RDS MEMORY
7458	4822 900 10372	COMMUNICATION
7459#	4822 130 60511	BC847B
7460#	5322 130 41982	BC848B
7461	5322 130 41983	BC858B
7462	5322 130 41983	BC858B
7462	5322 209 11578	PCF8574T
7463	5322 130 41983	BC858B
7464	5322 209 11129	PCF8576T PHIN
7483	5322 209 11578	PCF8574T
7484	5322 209 11578	PCF8574T
7485	5322 209 11578	PCF8574T
7550	4822 209 73396	LA3600
7551	4822 209 73396	LA3600
7552	4822 209 72892	TEA6310T/V5
7553	5322 209 11102	SM IC HEF4052BT
7554	4822 209 30708	LC7523
7650	4822 209 31328	IC FL26263 (TDA7374V
7651	4822 209 31328	IC FL26263 (TDA7374V
7652	4822 130 40854	BC327
7652	5322 209 14542	HEF4066BT
7654	5322 130 41982	BC848B
7655	5322 130 44864	BC517
7656	5322 130 41982	BC848B
7657	5322 130 41982	BC848B
7658	5322 130 44864	BC517
7660	5322 130 44864	BC517
7661	5322 130 41982	BC848B
7662	5322 130 41982	BC848B
7663	4822 130 63256	SM FET MTP2955LF
7751	5322 130 41982	BC848B
7752	5322 130 41983	BC858B
7753	4822 130 62651	ON4414
7754	4822 209 30016	L4901A
7755	4822 209 72227	L4916
7756	4822 209 63938	L4918
7757	5322 130 61677	BC875

* = ONLY 22DC982/62B

= ONLY 22DC962/62B

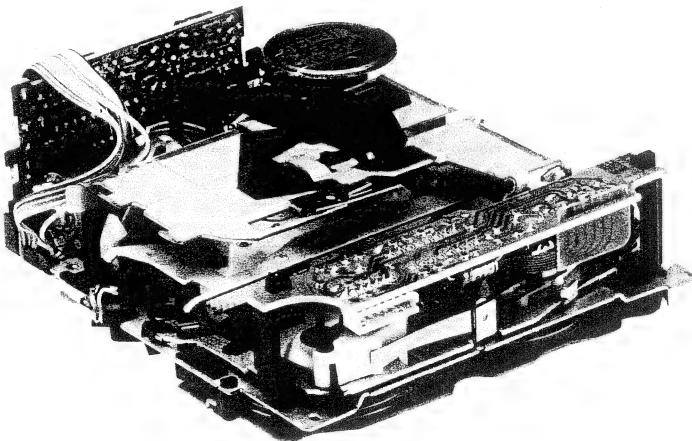
Car Cassette Deck SCA

Version 2.2
Version 2.5

Service
Service
Service

Service Manual

12 V 



DECK - DESCRIPTION

The SCA - versions 2.2 and 2.5 are full logic servo controlled Autoreverse Tapedecks, containing the mechanism, servo- and capstan motor, preamplifier (Audio - PCB) and microprocessor controlled electronics. The following features are available:

FEATURES:

Table of contents

	page
deck description	3
specification	4
repair instructions	5
pcb	6
figure 1, figure 2	7
figure 3 till figure 5	8
figure 6, figure 7	9
figure 8 till figure 10	10
measurments	11
measurments	12
circuit diagram	13
exploded view	14
partslist	15

PLAYBACK HEAD:

Dolby head with Philips AZIMUTH guiding. Fix mounting, no screws, no alignment necessary.

CASSETTE INSERTION:

The cassette is inserted until one feels klick and conterforce

CASSETTE LOADING:

After a manual insertion distance of about 6 mm the cassette moves motor controlled to the play position.

TAPE TIGHTENING:

Before a new loaded cassette starts play or before a cassette is ejected the tape transport mechanism will tighten the tape.

TAPE SALAD PROTECTION:

The tape transport is continuously controlled by microcomputer via servo motor. If there is irregular tapetransport, the mechanism will change the play-direction and correct the tapetransport. If there is no correction possible, it tries it again up to maximum 6 times. Then the cassette will be ejected.

TAPE TENSION:

Nearly constant during play (from beginning until end of tape) due to a constant tape force realized by the servo motor.

EJECT:

After the eject command is activated, the cassette is carried back via a servo motor controlled system to the defined controlled loading position (for SCA 2.2 current consumption will be reduced).

TAPE END:

Automatic reversion at tape end. The servo motor changes direction of rotation and therefore the opposite pinch roller and the driving wheel transports the tape quickly (< 0.8 sec) in the other direction (no movement of headplate).

MANUAL REVERSE:

If the reverse command is activated, the deck changes to the opposite play direction. (< 0.8 sec) Same function as tape end.

AUTOMATIC TAPE SELECTION:

Ferro, Metal and Chromium tape will be automatically detected. The "ME/FE" for switching preamplifier equalization has the level:
high - Metal or Chromium tape
low - Ferro tape.
The state command will be sent to the bus interface too.

MUSIC SEARCH SYSTEM:

If the MSS-function is activated, the head and pinchroller go back into the wind position. Tape transport is fast and the head detects modulation of the tape. If a modulation pause > 3 sec is tape transport remains fast at the next modulation start.

PROGRAMMABLE MSS VIA
MSS CONTOL:

Depending on the number of times the MSS-command is sent, n songs be skipped and the next played (n times = n songs skipped). Tape end deletes this function.

FFW - FRW FUNCTION:

FFW = wind in previous play direction
FRW = wind in opposite play direction
If the FFW/FRW command is activated, the head plate falls back in the wind position.
Servo motor speed is increased.

STAND BY:

- a) power off stand by
If the power supply is switched off, head and pinch roller are completely lifted from the tape.
(No current is supplied.)
- b) manual stand by
If the stand by command is activated, the deck is switched off (motor stopped), the head and pinch rollers are completely lifted from tape.

1. MECHANICAL SPECIFICATION

Operating positions:

Any position from horizontal -30° to standing vertically on the rear side.

Tape speed:

4,76 cm/sec

Wow and flutter:

< 0,3% unweighted

Winding time
test tape: RCA 118

< 120 sec

Eject time:

< 1.6 sec

2. ELECTRICAL SPECIFICATION

Voltage	min 10.0 V max 16.0 V
current - playback	220 mA
current - fast wind	100 - 150 mA
current - eject, standby	SCA 2.2: 50 µA SCA 2.5: 12 mA
Hold in voltage	8.0 V
Capstan motor	14,4 V DC
Servo motor	2 V DC Play 11,5 V DC Fast, servo
PLAYBACK CROSSTALK ch. 1 - 2 / 3 - 4	35 - 40 dB
ch. 2 - 3	45 - 50 dB

REPAIRINSTRUCTIONS

Protect the tape-decks against ESD.

For demounting see figures 1 to 7.

Plastic catches and snap connections must be released careful with a screwdriver or tweezers.

Disks (Pos.60) must be renewed after demounting.

Before taking out the cassette carrier, put the right leg of the eject spring (Pos.503) into the mounting position, otherwise it will hit against the guidance and breaks it (see figure 8).

Check that segments (Pos.66) and bracket (Pos.71) are fitted in the correct position. Then unlock the segments (see figure 6).

After fitting switch lever (Pos.72) the leaf spring must be pressed over the black lug of the chassis (see figure 7).

For lubrication see indications in the exploded view.

To clean tape transport and head only use wet cleaning tapes.

Tools required:
test cassette SBC 420 (4822 397 30071)
test cassette SBC 419 (4822 397 30069)
friction test cassette (4822 395 30054)
puller for clutch (fig.2) (4822 395 60039)
wow & flutter meter

ADJUSTMENTS

Frictions:

Adjust potentiometer Pos.3415 until friction-test-cassette shows 6,5 Nmm to 9,5 Nmm in NOR-direction (after 2 minutes), and 7 Nmm in REV-direction.

The supplying reel drag must be 0,3 Nmm to 0,7 Nmm. If values deviates, check lubrication and carrier-spindle (Pos.62).

Wow and flutter, tape speed:

Connect wow and flutter meter to loudspeaker outputs and play the 3150 Hz signal track of test cassette SBC 420. Value should be max. 0,3 %. Tape speed can be adjusted with motor potentiometer A. Use a screwdriver with an insulated shaft (see figure 8)! If the value of wow and flutter is not correct, check motors (Pos.1002, 1003), pressure rollers (Pos.68, 70), flywheels (Pos.77), belt (Pos.79), pulley (Pos.76) and spring toward extraction (Pos.65).

Check also the distance between bracket of pressure roller NOR-side and the adjustable excenter when the deck plays in NOR-direction (see figure 10).

Output level:

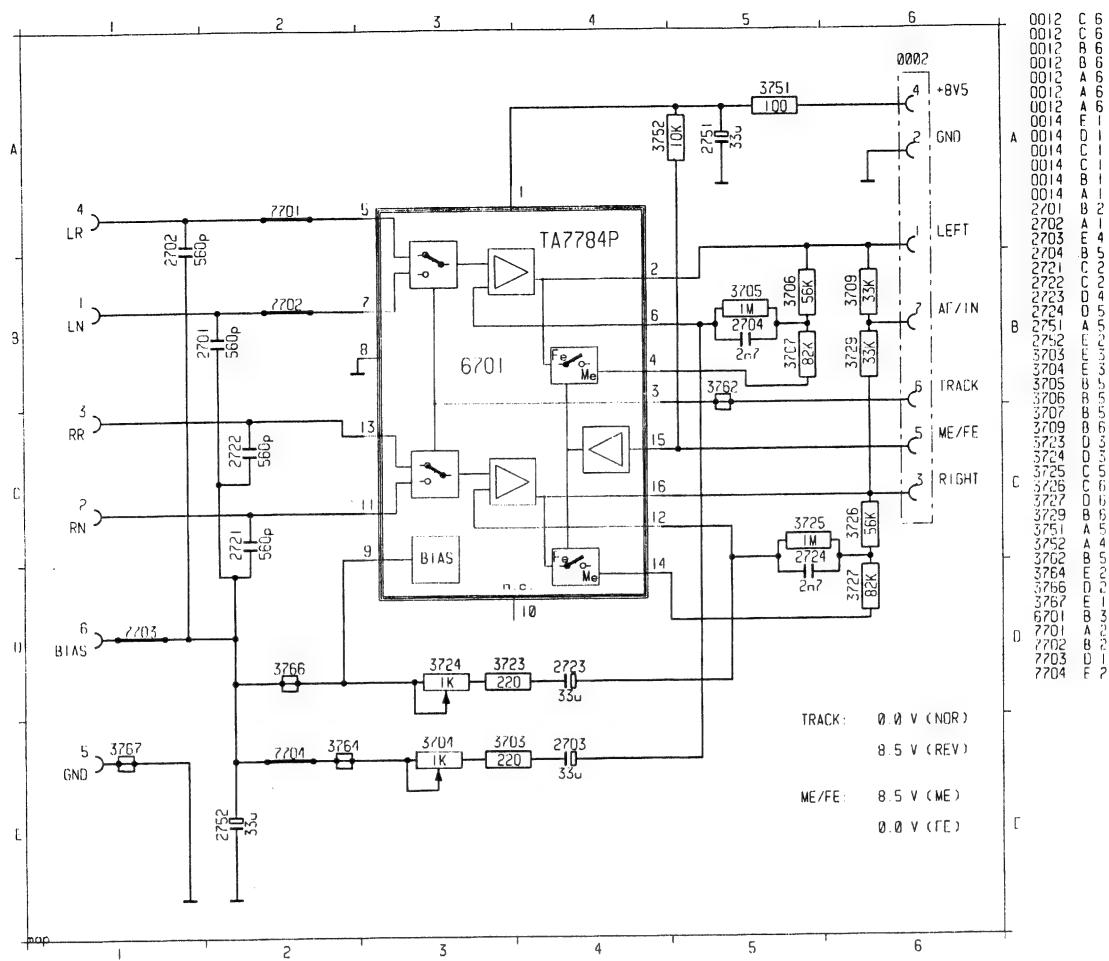
Play track 400 Hz - 200 nWb/m of testcassette SBC 419.

For left channel measure at pin 1 of connector 0002, align potentiometer (Pos.3704).

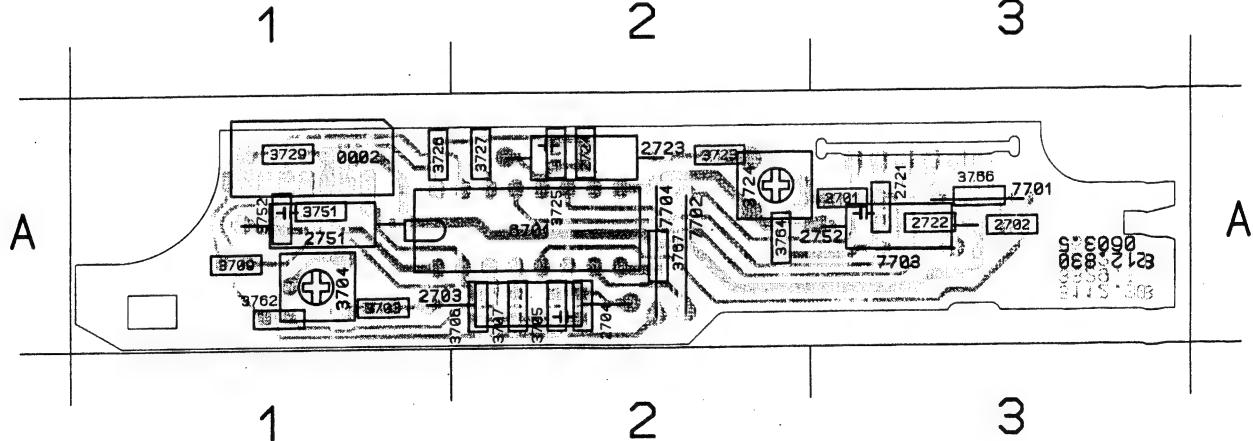
For right channel measure at pin 3 of connector 0002, align potentiometer (Pos.3724).

SCA 2.2: 38,8 mV +/- 1 dB

SCA 2.5: 52,0 mV +/- 1 dB



0002 A 1	2704 A 2	2724 A 2	3704 A 1	3709 A 1	3726 A 1	3752 A 1	3767 A 2	7703 A 3
2701 A 3	2721 A 3	2751 A 1	3705 A 2	3723 A 2	3727 A 2	3762 A 1	6701 A 1	7704 A 2
2702 A 3	2722 A 3	2752 A 3	3706 A 2	3724 A 2	3729 A 1	3764 A 2	7701 A 3	
2703 A 1	2723 A 2	3703 A 1	3707 A 2	3725 A 2	3751 A 1	3766 A 3	7702 A 2	



EJECTOR 61, HOLDER 63, LIFT 64

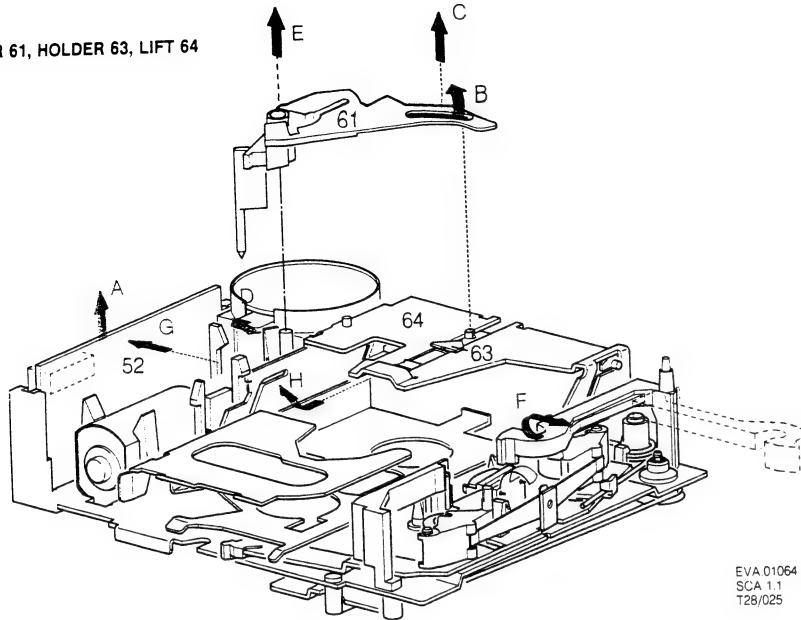


Fig. 1

CLUTCH 51, SWITCH 53, GEAR WHEEL 58, CARRIER 62

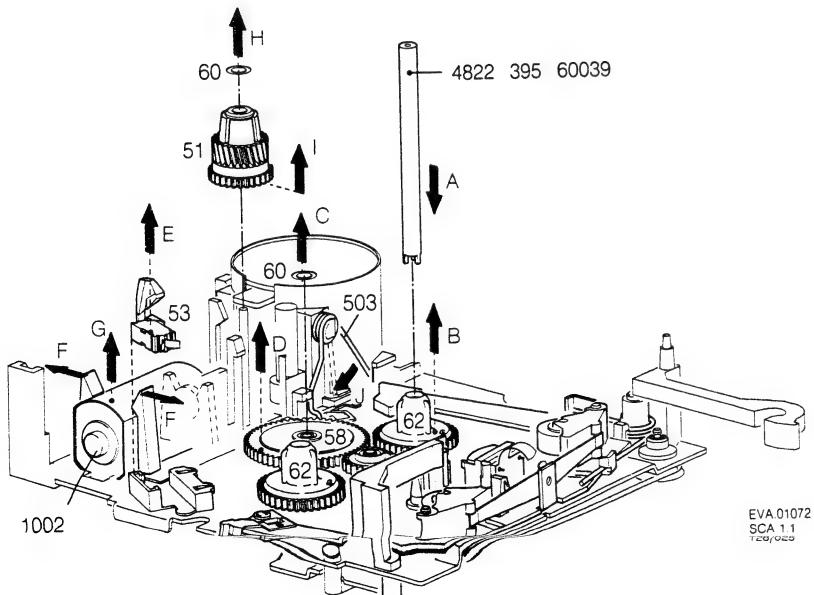
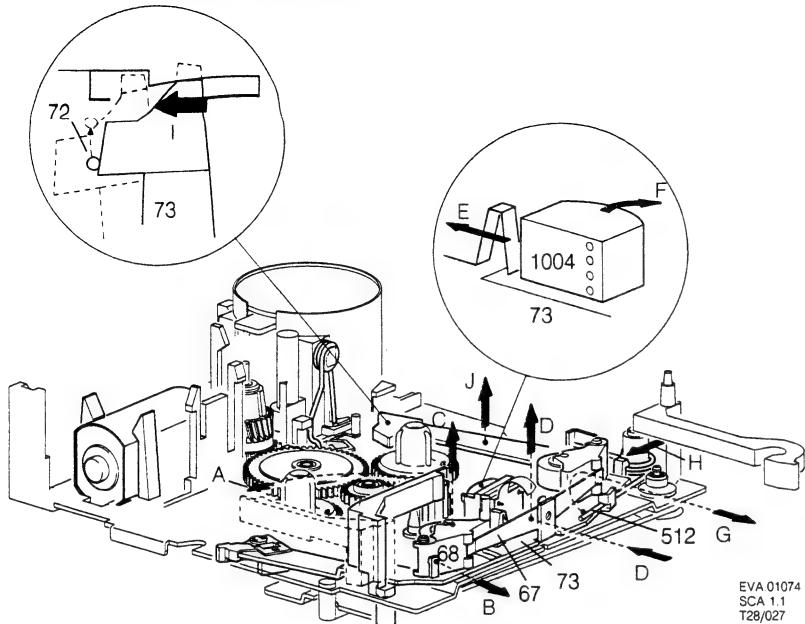
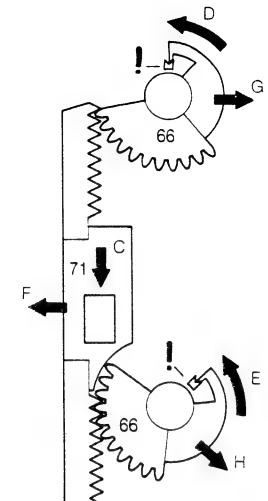
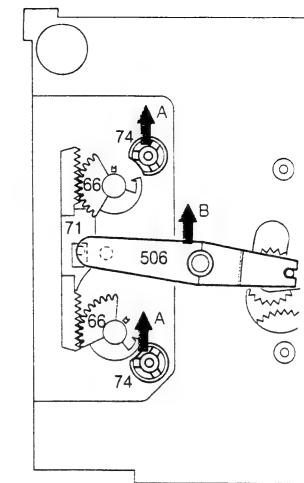


Fig. 2

PRESSURE ROLLER 68, HEAD BRACKET 73, HEAD 1004



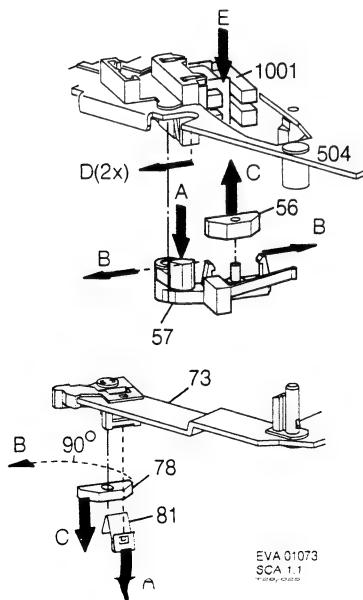
SEGMENT 66, BRACKET 71, BEARING 74



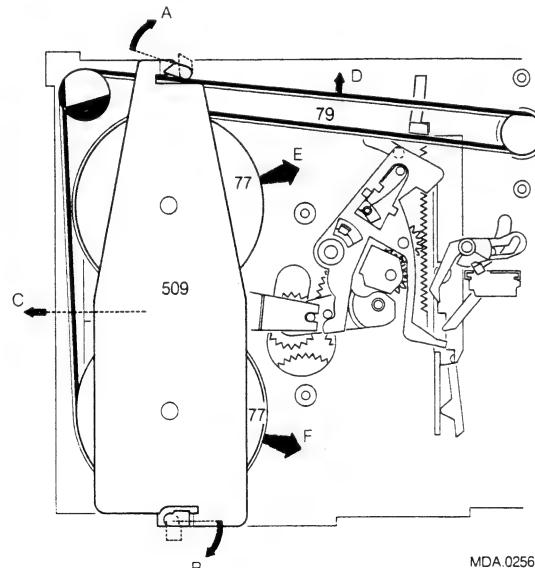
MDA.02563
SCA 1.1
T23/023

Fig. 6

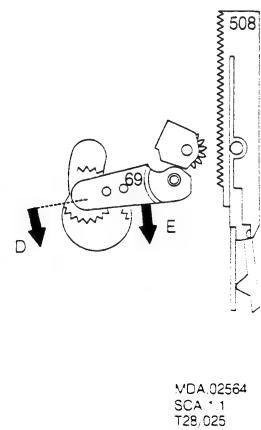
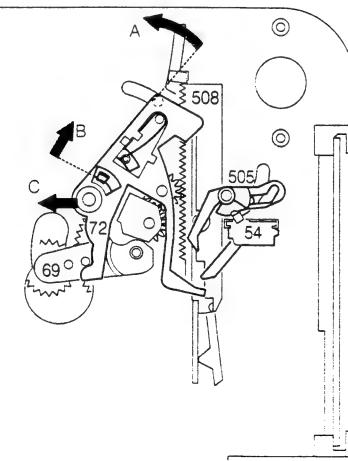
ANCHOR 56/78, RELAY 1001



FLYWHEEL 77, BELT 79



SWITCH 54, SWIVEL GEAR 69, LEVER 72



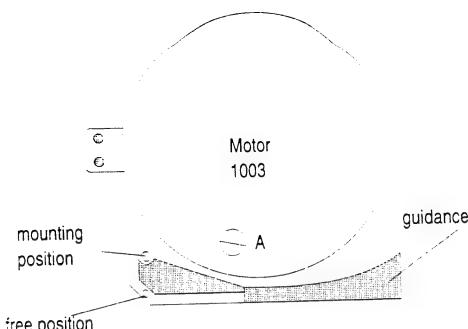


figure 8

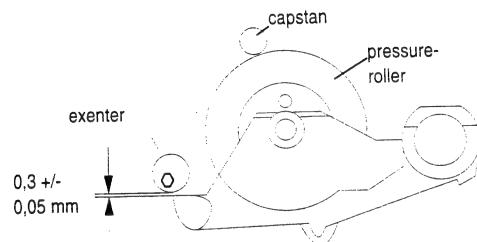
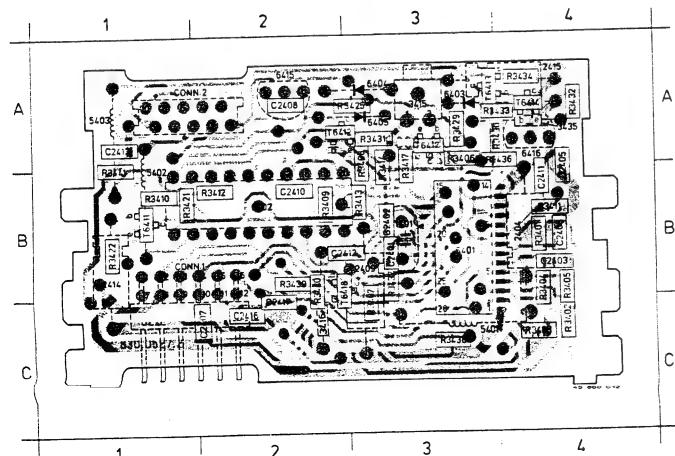


figure10



10

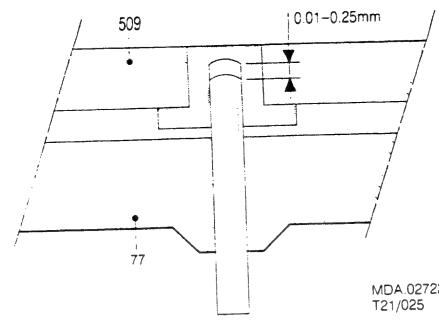


Fig. 9

special for version 2.5

equal for both versions

special for version 2.2

1:		3,7 / 0,1 (P)
2:		5,0
3:		5,0
4:		5,0
5:		5,0
6:		2,5
7:		2,50,0 (Sb)
8:		2,50,0 (Sb)
9:	0,0 (Sb)	0,1 (P) / 0,7 (W)
10:		5,0
11:		GND
12:	0,0 / 5,0 (W)	4,7 / 0,0 (Sb)
13:	5,0	4,7
14:	5,0 (P)	4,7 (P)
15:		5,0 (N) / 0,0 (R)
16:		0,0 (N) / 5,0 (R)
17:		5,0 (P) / 0,2 (W)
18:		0,0 (N) / 5,0 (R)
19:		5,0
20:		2,5
21:		2,5
22:		4 MHz
23:	5,0	5,0 V (Sb)
24:	0,0	0,0 (Sb)0,1
25:		n.c.
26:		0,1
27:		0,0 (FE) / 5,0 (ME)
28:		0,0 / 5,0 (Sb)

Pos. 6402 SCA 5058

1:		0,0	
2:		n.c.	
3:	0,0 (Sb)	0,1 (P) / 0,7 (W)	1,2 (Sb)
4:		n.c.	
5:		GND	
6:		GND	
7:		n.c.	
8:		0,0 (P) / 3,5 (W)	
9:		3,5 (PN) / 1,3 (PR) / 10,6 (WN) / 1,0 (WR)	
10:		0,5 (P) / 0,25 (W)	
11:		12,0	
12:		1,3 (PN) / 3,5 (PR) / 1,0 (WN) / 10,6 (WR)	
13:	2,3 (Sb)	3,5	0,0 (Sb)
14:		2,3	0,0 (Sb)
15:		GND	
16:		GND	
17:		0,8 / 0,0 (Sb)	
18:		5,0 (N) / 0,0 (R)	
19:		0,0 (N) / 5,0 (R)	
20:		0,8 / 0,0 (Sb)	

special for version 2.5

equal for both versions

special for version 2.2

Pos. 6411 BC847

B:	0,65 (P) / 0,2 (W) / 0,0 (Sb)
C:	0,0 (P) / 3,5 (W)
E:	GND

0,0 (Sb)

Pos. 6412 BC847

B:	0,8 / 0,0 (Sb)
C:	0,1 / 12,0 (Sb)
E:	GND

Pos. 6413 BC847

B:	0,0 / 0,7 (W)	0,8 / 0,0 (Sb)
C:	12,0 / 0,0 (W)	0,1 / 12,0 (Sb)
E:	GND	

Pos. 6415 BC875

B:	0,0 / 1,5 (P)
C:	11,0 / 0,8 (P)
E:	GND

Pos. 6416

BC857

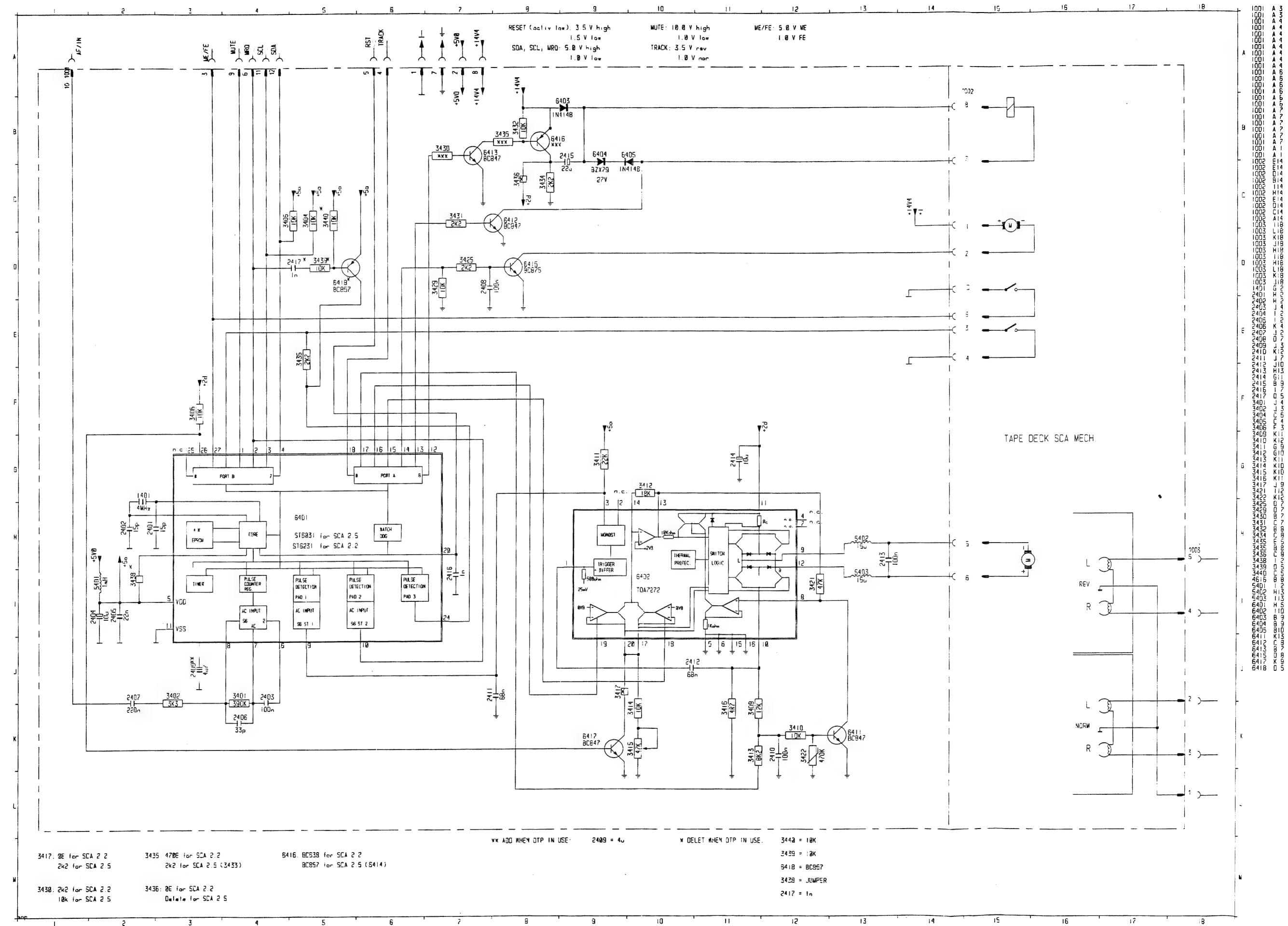
B:	12,0	11,2 / 12,0 (Sb)
C:	0,0 / 12,0 (W)	12,0 / 0,0 (Sb)
E:		

BC638

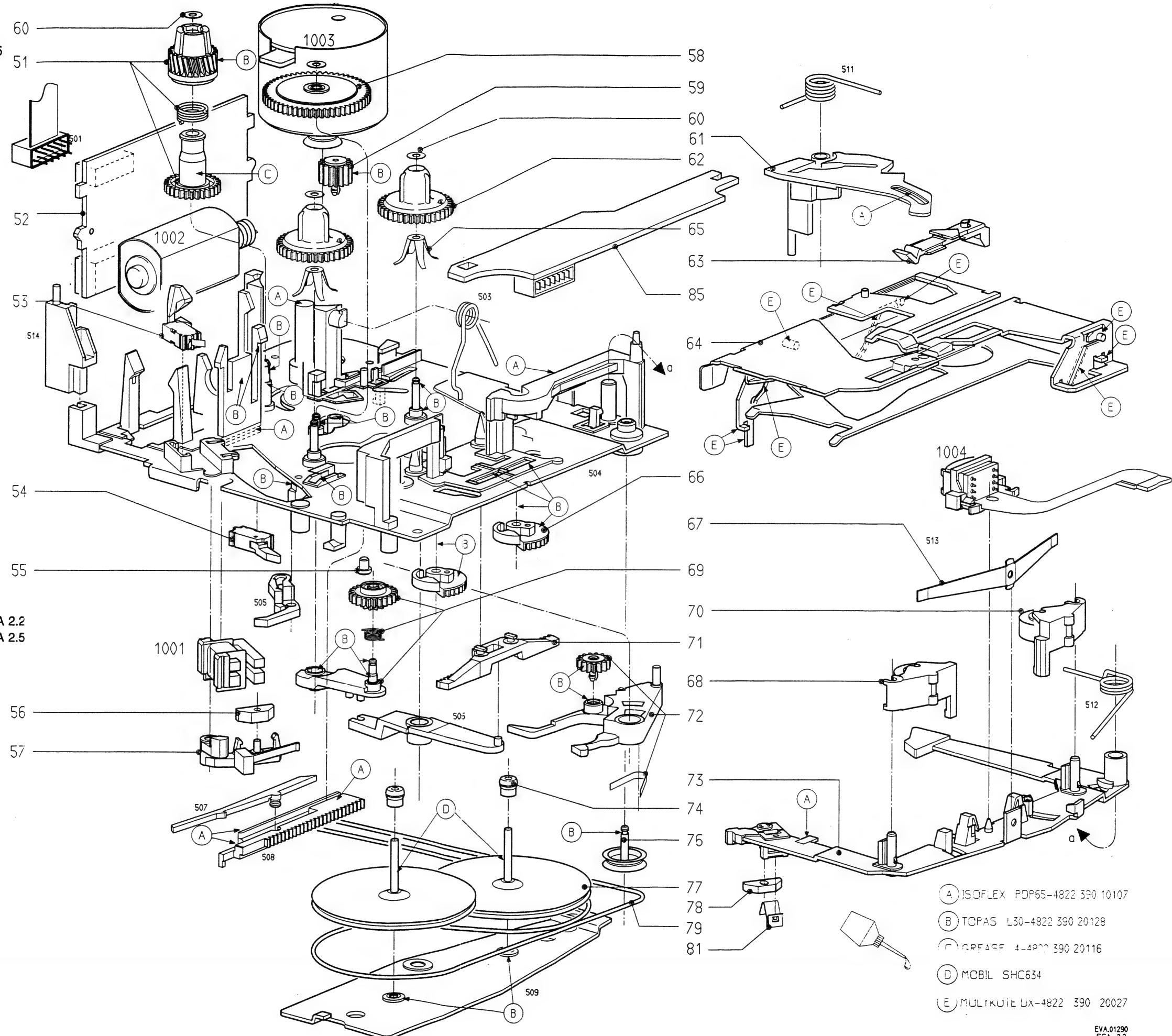
B:	0,1
C:	0,8 / 0,0 (Sb)
E:	GND

All values in Volt-DC, measured against GND

(P) = Play mode (both directions)
 (W) = Wind mode (both directions)
 (N) = Normal mode
 (R) = Reverse mode
 (PN) = Play normal direction
 (PR) = Play reverse direction
 (WN) = Wind normal direction
 (WR) = Wind reverse direction
 (Sb) = Standby
 (FE) = Ferro - cassette
 (ME) = Metal-/Chrome - cassette
 n.c. = not connected



A	4822 390 10107	ISOFLEX PDP65
B	4822 390 20128	TOPAS L30
C	4822 390 20116	004
E	4822 390 20027	MOLYKOTE DX
51	4822 522 10435	SCA 2.2
52	4822 214 51815	SCA 2.5
52	4822 214 52005	
53	4822 277 11216	
54	4822 277 11215	
55	4822 502 12548	
56	4822 404 21084	
57	4822 404 21087	
58	4822 522 32868	
59	4822 522 32871	
60	4822 532 52348	
61	4822 404 21091	
62	4822 528 10776	
63	4822 404 21092	
64	4822 466 82631	
65	4822 492 70926	
66	4822 522 32869	
67	4822 492 70557	
68	4822 528 81377	
69	4822 528 70658	
70	4822 528 81449	
71	4822 404 21089	
72	4822 404 21086	
73	4822 404 21088	
74	4822 520 30539	
76	4822 528 81144	
77	4822 528 81378	
78	4822 404 21083	
79	4822 358 31053	
81	4822 492 70556	
85	4822 214 52006	
	4822 701 12892	
	4822 701 12893	
	Deck compl. SCA 2.2	
	Deck compl. SCA 2.5	



Capacitor

2401	5322 122 33869	15pF	5%	63V
2402	5322 122 33869	15pF	5%	63V
2403	4822 122 33496	100nF	10%	63V
2404	4822 124 20697	10μF	50%	25V
2405	5322 122 32654	22nF	10%	63V
2406	5322 122 32659	33pF	5%	50V
2407	4822 122 32916	220nF	10%	63V
2408	4822 122 33496	100nF	10%	63V
2410	4822 122 33496	100nF	10%	63V
2411	4822 122 32891	68nF	10%	63V
2412	4822 122 32891	68nF	10%	63V
2413	4822 122 33496	100nF	10%	63V
2414	4822 124 20697	10μF	50%	25V
2415	4822 124 20698	22μF	50%	25V
2416	4822 122 33178	1nF	20%	50V
2701	4822 122 33173	560pF	10%	50V
2702	4822 122 33173	560pF	10%	50V
2703	4822 124 20688	33μF	50%	16V
2704	4822 122 33176	2.7nF	20%	50V
2721	4822 122 33173	560pF	10%	50V
2722	4822 122 33173	560pF	10%	50V
2723	4822 124 20688	33μF	50%	16V
2724	4822 122 33176	2.7nF	20%	50V
2751	4822 124 20688	33μF	50%	16V
2752	4822 124 20688	33μF	50%	16V

Resistor

3401	4822 051 20394	390k	5%	0.1W
3402	4822 051 20332	3k3	5%	0.1W
3403	4822 051 20103	10k	5%	0.1W
3404	4822 051 20103	10k	5%	0.1W
3405	4822 051 20103	10k	5%	0.1W
3406	4822 051 20103	10k	5%	0.1W
3409	4822 051 20123	12k	5%	0.1W
3410	4822 051 20103	10k	5%	0.1W
3411	4822 051 20223	22k	5%	0.1W
3412	4822 051 20183	18k	5%	0.1W
3413	4822 051 20822	8k2	5%	0.1W
3414	4822 051 20272	2k7	5%	0.1W
3415	4822 100 11878	Adj. potm. 22k		
3416	4822 050 24708	4E7	1%	0.6W
3417	4822 051 20222	2k2	5%	0.1W
3421	4822 051 20473	47k	5%	0.1W
3422	4822 116 30434	Thermistor	470k	
3425	4822 051 20222	2k2	5%	0.1W
3429	4822 051 20103	10k	5%	0.1W
3430	4822 051 20103	10k	5%	0.1W

Resistor

3431	4822 051 20222	2k2	5%	0.1W
3432	4822 051 20103	10k	5%	0.1W
3433	4822 051 20222	2k2	5%	0.1W
3434	4822 051 20222	2k2	5%	0.1W
3437	4822 051 20222	2k2	5%	0.1W
3438	4822 051 20008	0E	5%	0.1W
3441	4822 051 20008	0E	5%	0.1W
3703	4822 051 20221	220E	5%	0.1W
3704	4822 100 11348	Adj. potm. 1k		
3705	4822 051 20105	1M	5%	0.1W
3706	4822 051 20563	56k	5%	0.1W
3707	4822 051 20823	82k	5%	0.1W
3709	4822 051 20333	33k	5%	0.1W
3723	4822 051 20221	220E	5%	0.1W
3724	4822 100 11348	Adj. potm. 1k		
3725	4822 051 20105	1M	5%	0.1W
3726	4822 051 20563	56k	5%	0.1W
3727	4822 051 20823	82k	5%	0.1W
3729	4822 051 20333	33k	5%	0.1W
3751	4822 051 20101	100E	5%	0.1W
3752	4822 051 20103	10k	5%	0.1W
3762	4822 051 20008	0E	5%	0.1W
3764	4822 051 20008	0E	5%	0.1W
3766	4822 051 20008	0E	5%	0.1W
3767	4822 051 20008	0E	5%	0.1W

Coil

5401	4822 157 50975	1mH
5402	4822 157 50965	15μH
5403	4822 157 50965	15μH

Diode Transistor

4822 130 42705	BC847
4822 130 61233	BC857
5322 130 61677	BC875
4822 130 34379	BZX79-B27
4822 130 30621	1N4148

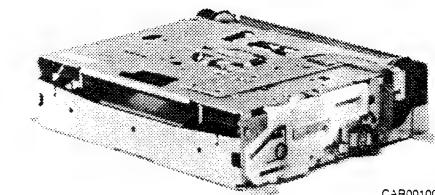
I.C.

6401	4822 209 31559	ST6231+RC μP SCA 2.2
6401	4822 209 31576	ST6031 RC5 μP SCA 2.5
6402	4822 209 31617	TDA7272 Motor control
6701	4822 209 71871	TA7784P Pre-amplifier

MISCELLANEOUS

1001	4822 281 11051	Double magnet
1002	4822 361 30297	Servo motor
1003	4822 361 30294	Capstan motor
1004	4822 249 30186	Playback head
1401	4822 242 70831	Ceram. resonator 4MHz

Service
Service
Service



CAR00100A

12 V

Contents	Page
1. Specification	1
2. Functional description	2
3. Service hints	2
4. Checks	2
5. Block diagrams IC's	3
6. Adjustments	4
7. Block diagram	5
8. Layout pcb's & wiring diagram	6 (2x)
9. Circuit diagram I	7
10. Circuit diagram II	8
11. Wave forms	9
12. Lead layout semi-conductors	9
13. Modifications	9
14. Expl. views + list of mech. parts	10
15. List of electrical parts	11

1. SPECIFICATION

- Operating voltage : 10.8 - 15.6V
- Operating temperature : -10 - 50°C
- Frequency response : 5 - 20,000Hz ± 3dB
- Harmonic distortion : 0.015% (1kHz)
- S/N ratio : ≥ 80dB
- Channel difference : ≤ 3dB
- Channel separation : ≥ 70dB

CLASS 1
LASER PRODUCT

2. FUNCTIONAL DESCRIPTION

When the Optical pick-up block has moved completely towards the centre and the limit switch is switched on, the sled motor starts to rotate the gear in the direction of the arrow (Fig. 1).

The deck section is fixed to the chassis. Now the lock gear switch is switched on and the loading motor starts rotating to eject the CD.

3.1 SERVICE HINTS

In PLAY mode, the deck section is only connected to the chassis through the dampers to avoid it is affected by vibrations.
The lock gear is fixed in the notch of the chassis only in STOP mode (Fig. 2). If the lock gear is not firmly fixed in the notch, the disc cannot be inserted or removed.
In that case rotate the gear near the sled motor by hand till the lock gear is fixed firmly.

- When serviceing, do not take the Optical pick-up block apart and do not adjust the APC circuit.
- In case of a defect replace the complete Optical pick-up block (including the APC pcb).
- When re-assembling, place the Sensor pcb while keeping the pin pressed to the right (Fig. 3). Fixing the Sensor pcb forcibly may cause breakage of the switch.

3.2 SERVICE TOOLS

Test CD "skew disc" 4822 701 11922
Test CD "eccentricity" 4822 701 11923

Test CD "5" & "5A" 4822 397 30096
Test CD "Audio signals 1" 4822 397 30184

4. CHECKS

Initial start-up, rafoc unit

- Insert test CD "skew-disc".
- Playback tracks 1-9 (first 20 minutes) without interruptions.

Disc drive motor and servo motor

- Insert test CD "eccentricity".
- Playback tracks 1-20 without interruptions.

Interruptions, black dots, fingerprints

- Insert test CD "5A".
- Playback tracks 9, 11-17 (prefered: 17), 18, 19 (prefered 19) without interruptions.

Specification

- Check with test CD "Audio signals disc 1".

5.1 IC1 PINS

Pin	Description	Pin	Description	Pin	Description
1	Serial data out	18	Audio mute control out	40	Clock in
2	Clock out	19	PLL control out	41	Serial data out
3	Latch out	20	Clock out	42	Reserved
4	Loading start in	21	Reset out	43	Serial data in
	8cm disc eject compl in	22	Laser control out	44	Ground
5	Disc chucking compl in	23	8cm disc gain ctl out	45-48	Reserved
6	Chuck start out	24, 25	Ground	49	Sound ctrl (tm) out
7	8/12cm disc detect in	26, 28	VDD	50-52	Ground
8	Lock gear detect in	27, 39	Chip select in	53-56	Tm (test mode) setting
9	Disc sensor in	29, 30	Crystal	57	Reserved
10,11	Ground	31	Reset in	59	Subcode sync S
12	Frame sync lock det in	32	Plunger control in	60	sgnl in
13	SENSE in	33, 34	Loading motor ctl out	61, 62	Signal request out
	Focus OK in		Test mode control out		SLED MOTOR CONTROL OUT
15	Temp detection out	36	Error ctrl (tm) out	63	Subcode Q signal in
16	Digital mute ctrl out	37	Reserved	64	Clock (subcode Q) out
17	Emphasis control out	38, 58	VDD		

PCS 74 068

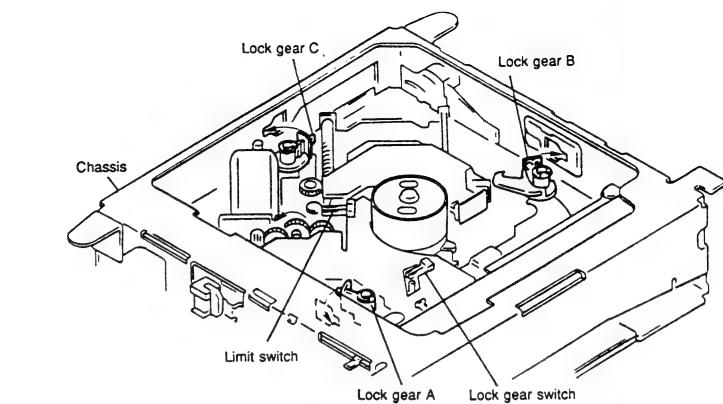


Fig. 1

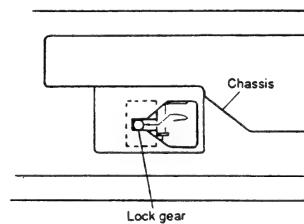


Fig. 2

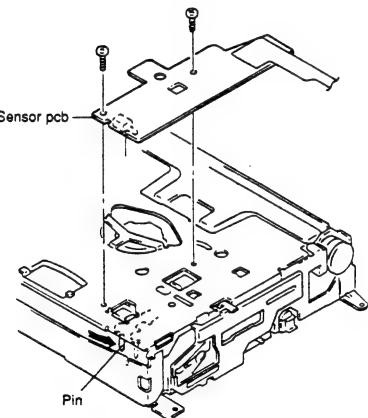
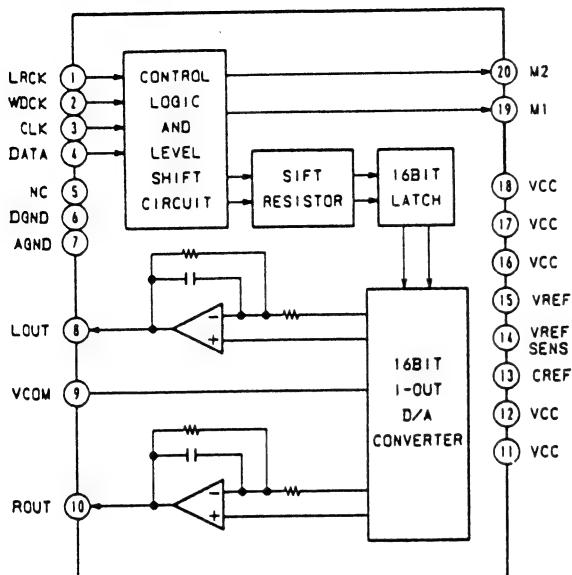


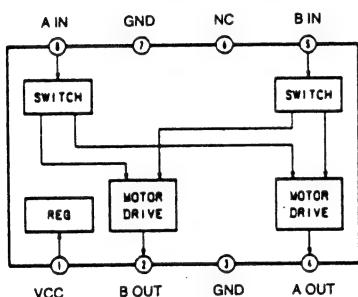
Fig. 3

5.2 IC BLOCKDIAGRAMS

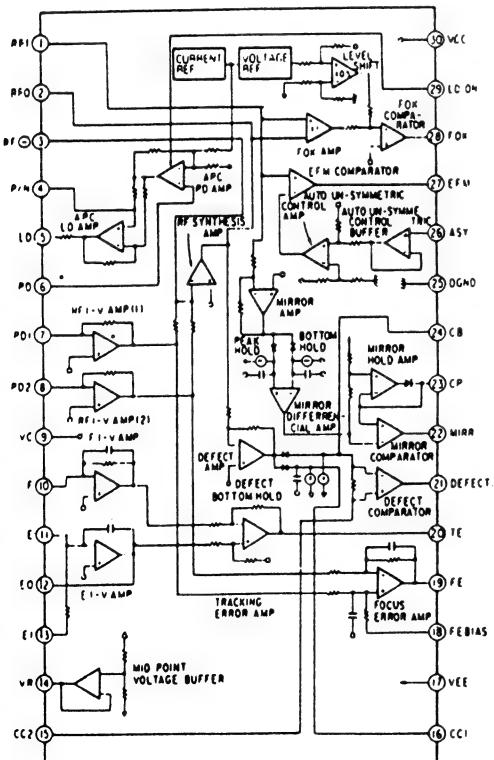
IC301 PCM66P



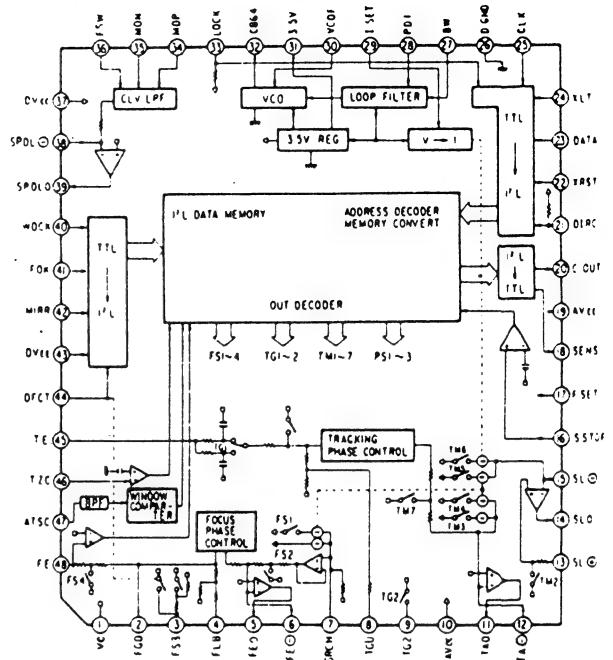
IC403 BA6208F



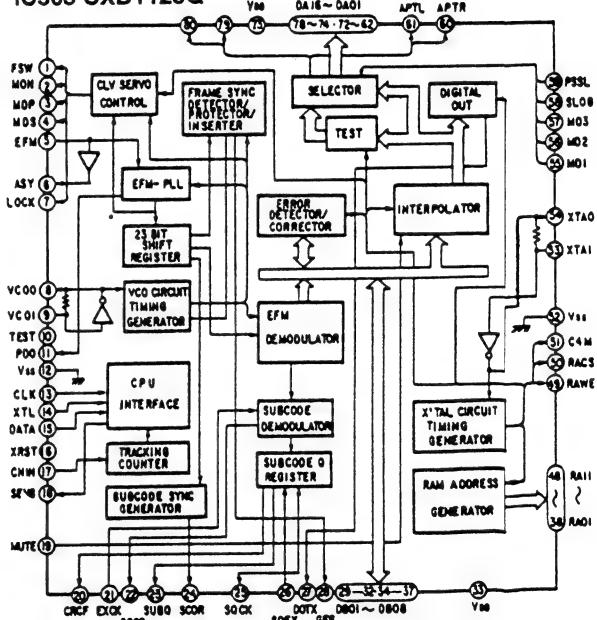
IC501 CXA1081Q



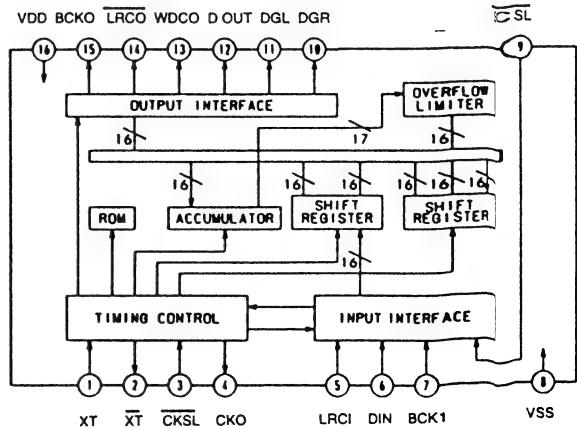
IC502 CXA1082BQ



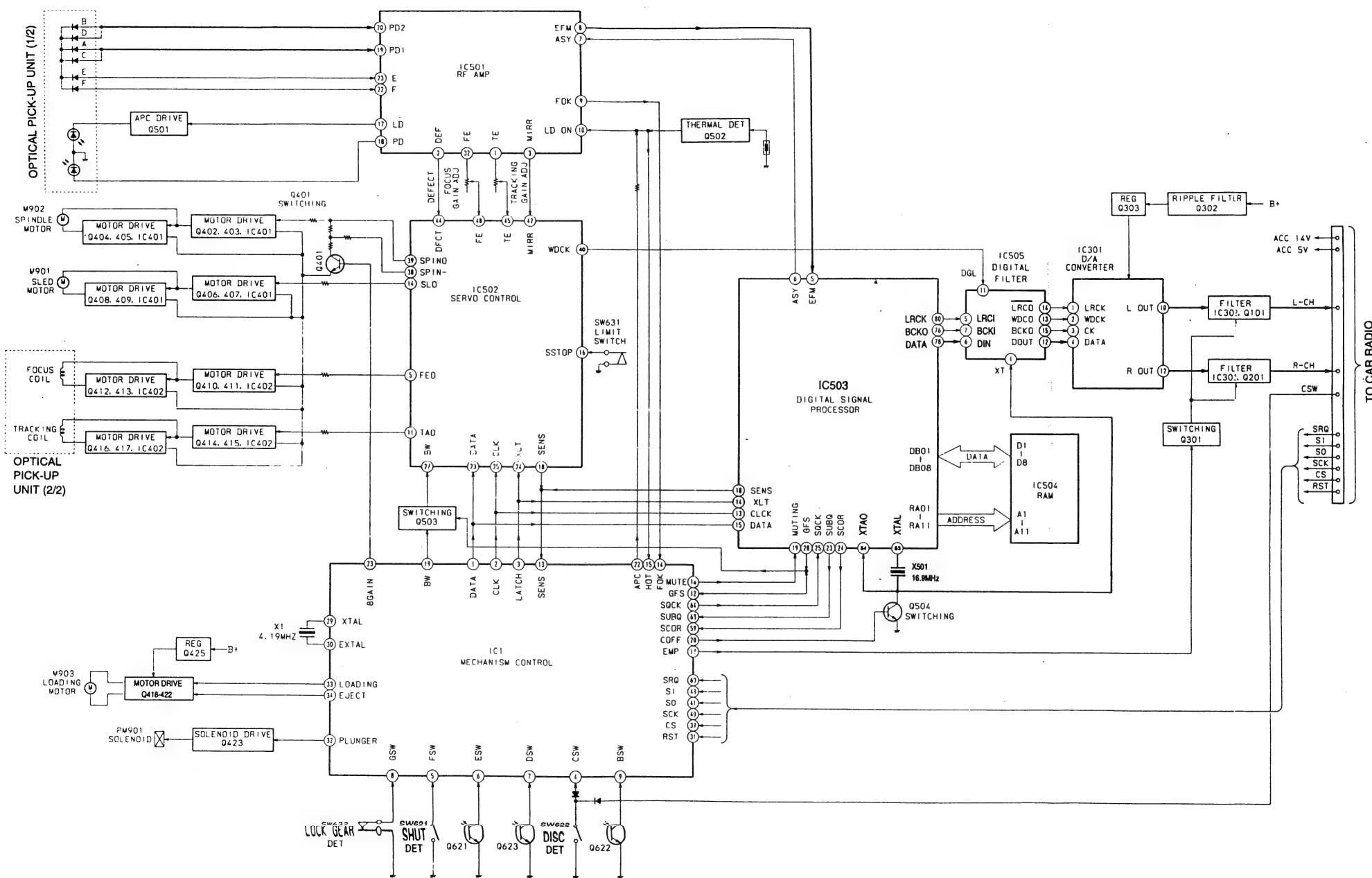
IC503 CXD1125Q



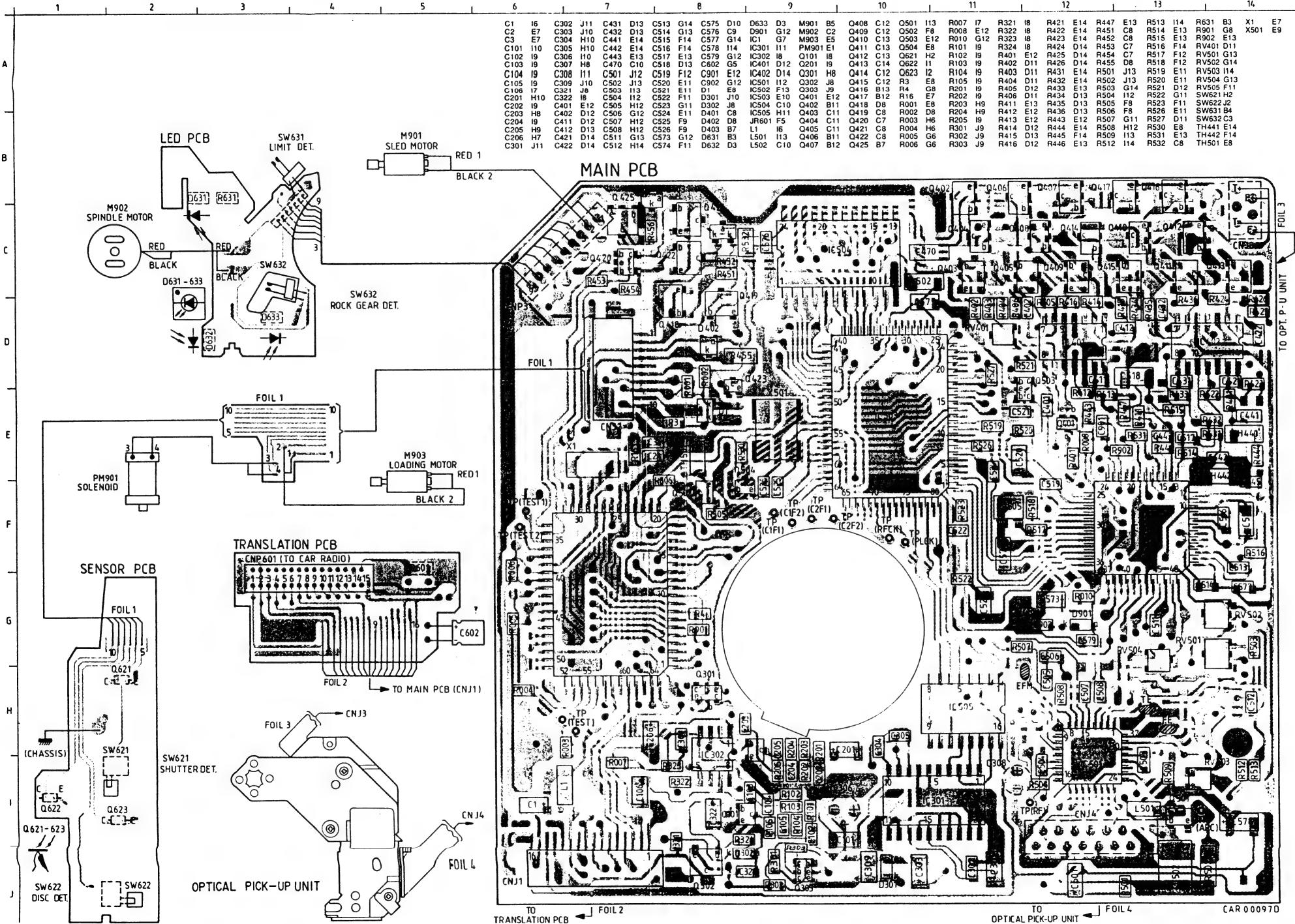
IC505CXD1316D



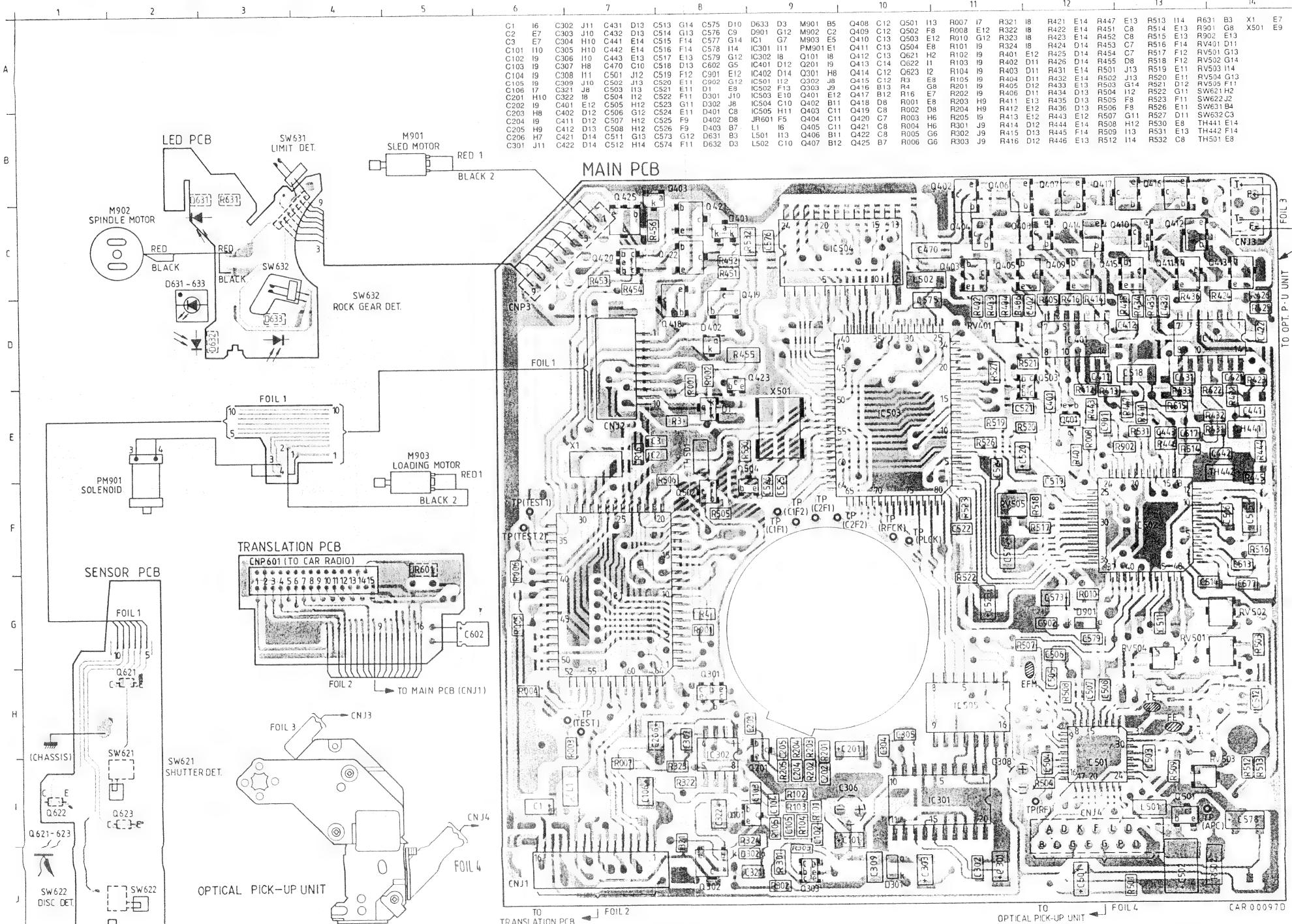
7. BLOCKDIAGRAM



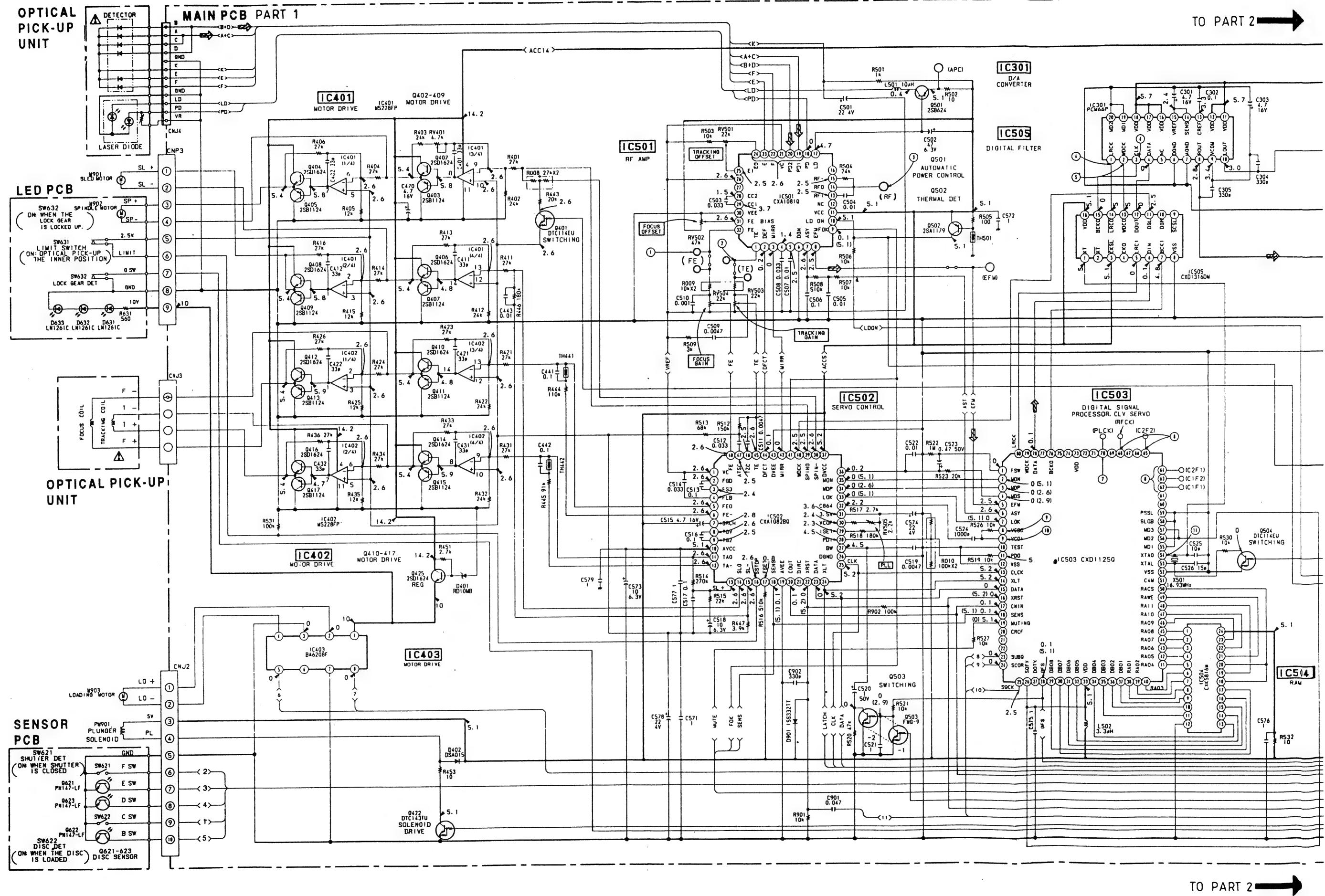
8. LAYOUT PCB'S & WIRING DIAGRAM



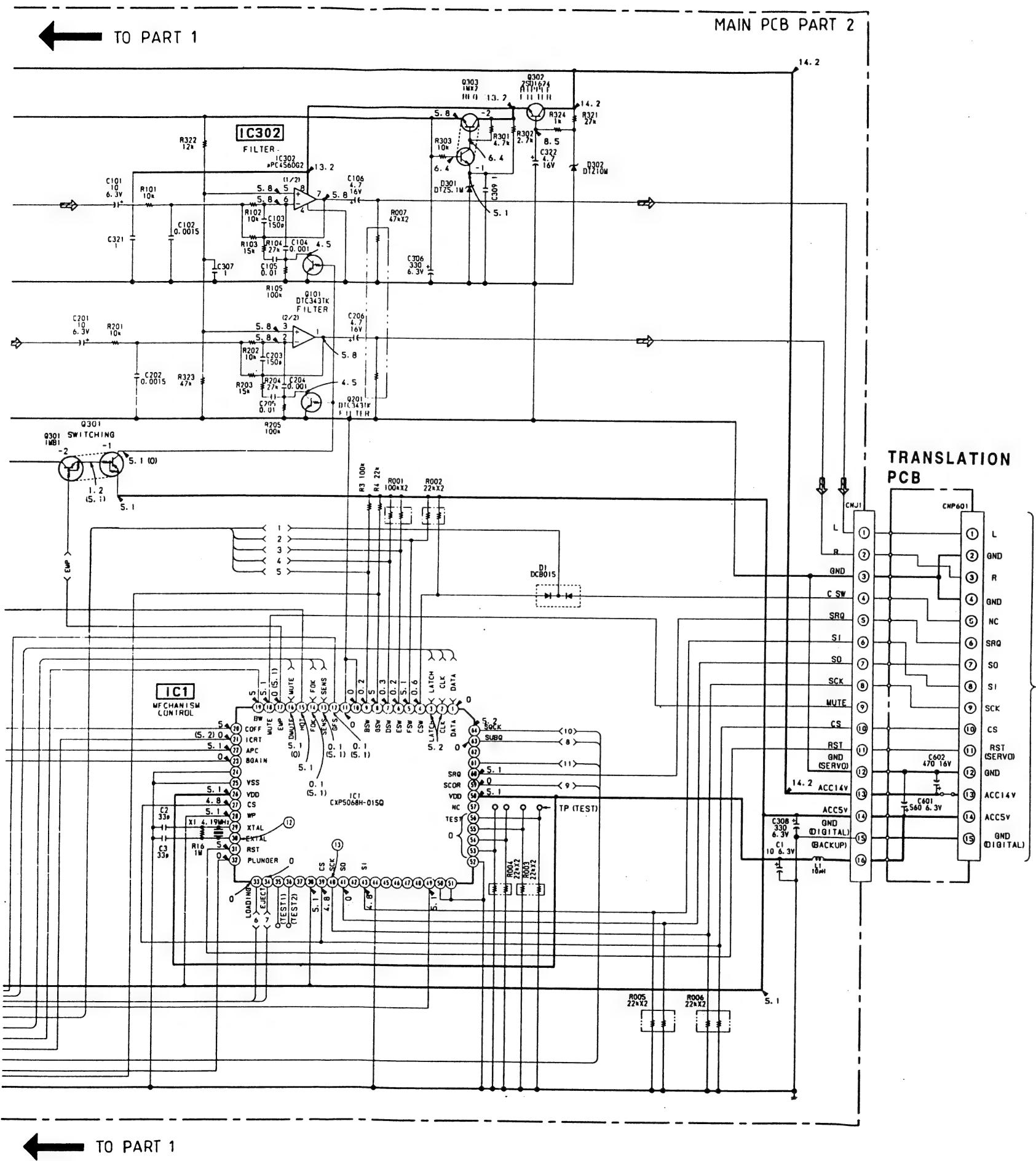
8. LAYOUT PCB'S & WIRING DIAGRAM



9. CIRCUIT DIAGRAM I



10. CIRCUIT DIAGRAM II

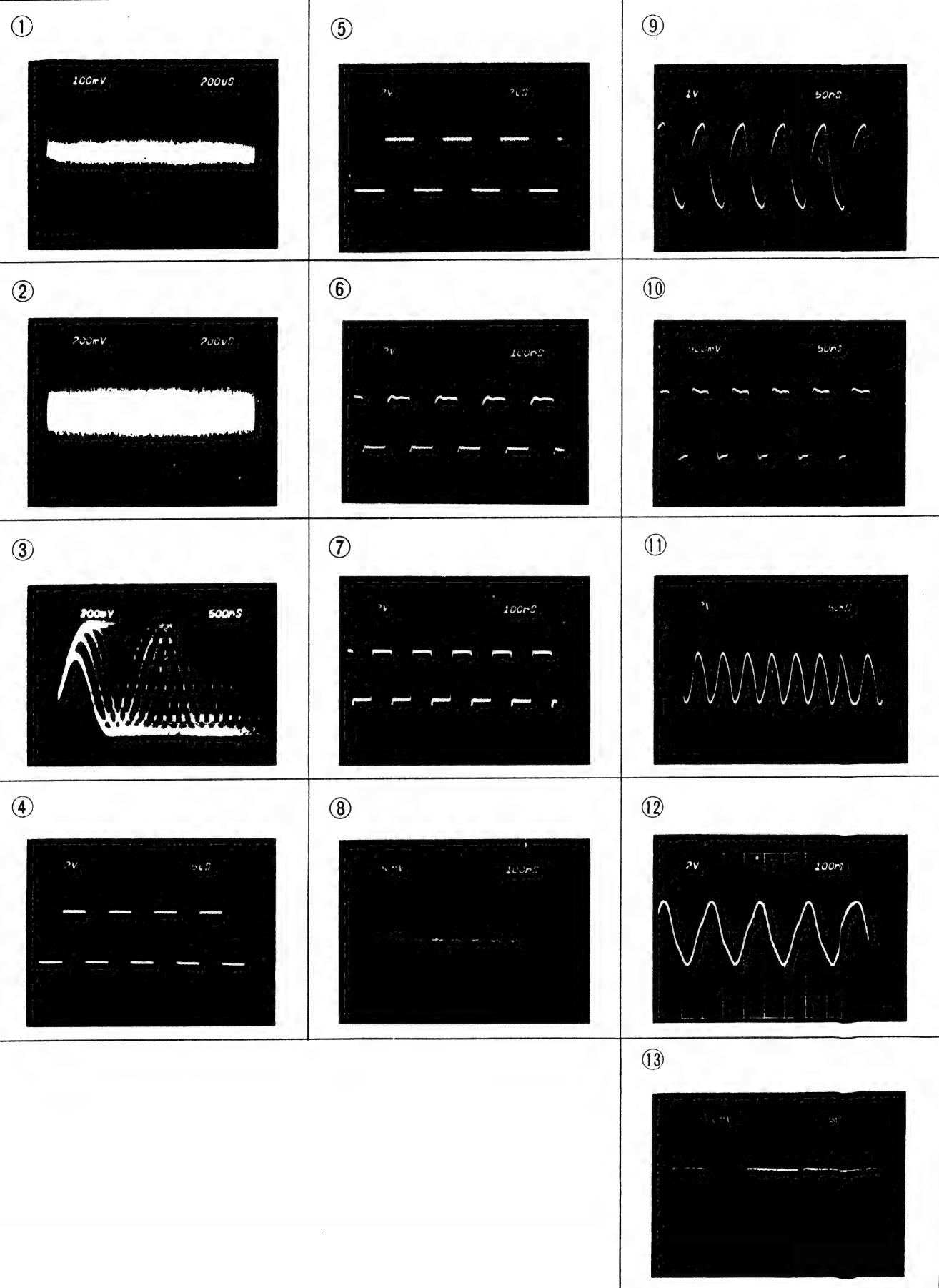


11. MEASURING CONDITIONS

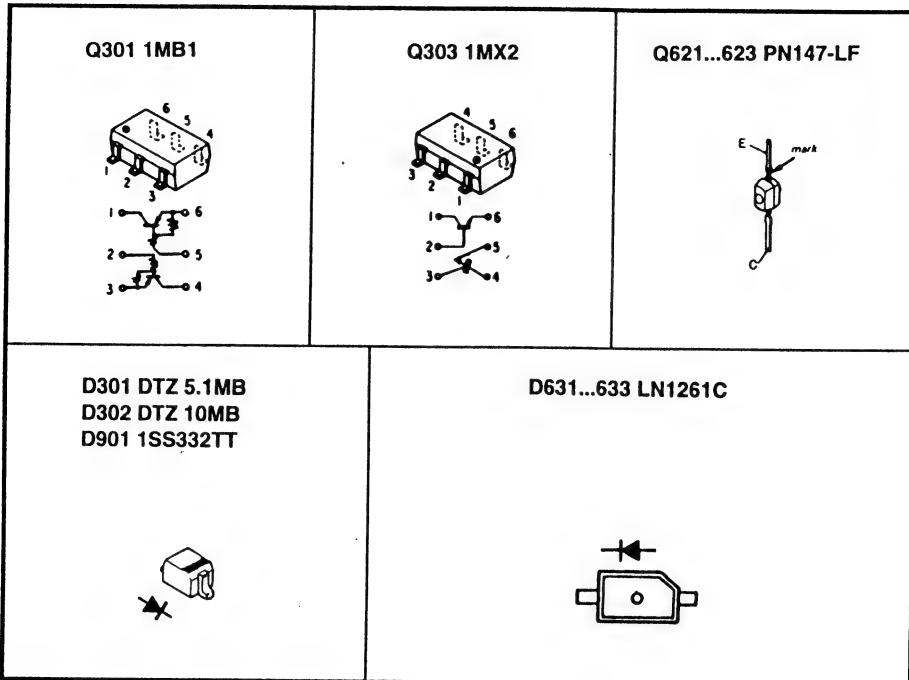
- Supply voltage: 14.4V DC
 - Voltages and wave forms are DC with respect to ground. No signal applied.
 - ...V : STOP
 - (...V) : PLAY.
 - Voltages are measured with an EVM, input impedance $10M\Omega$.
 - Circled numbers refer to wave forms, measured with an oscilloscope.
 - : adjustment for repair
 - Signal path : CD
 - Position of switches:

Item	Function	Position
SW621	Shutter det.	Off
SW622	Disc det.	Off
SW631	Limit	On
SW632	Lock gear	On

11. WAVE FORMS



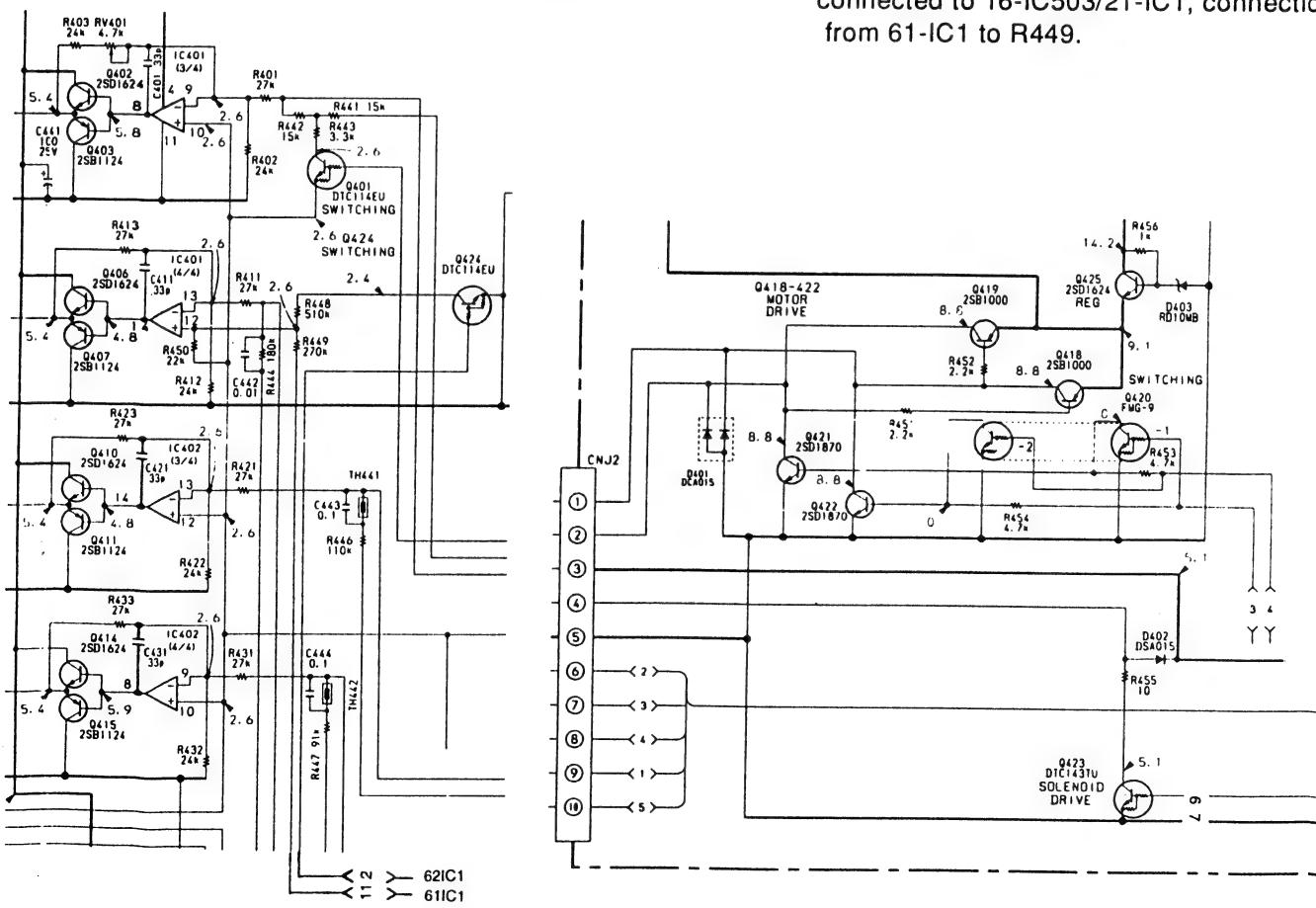
12. LEAD LAYOUT SEMI-CONDUCTORS



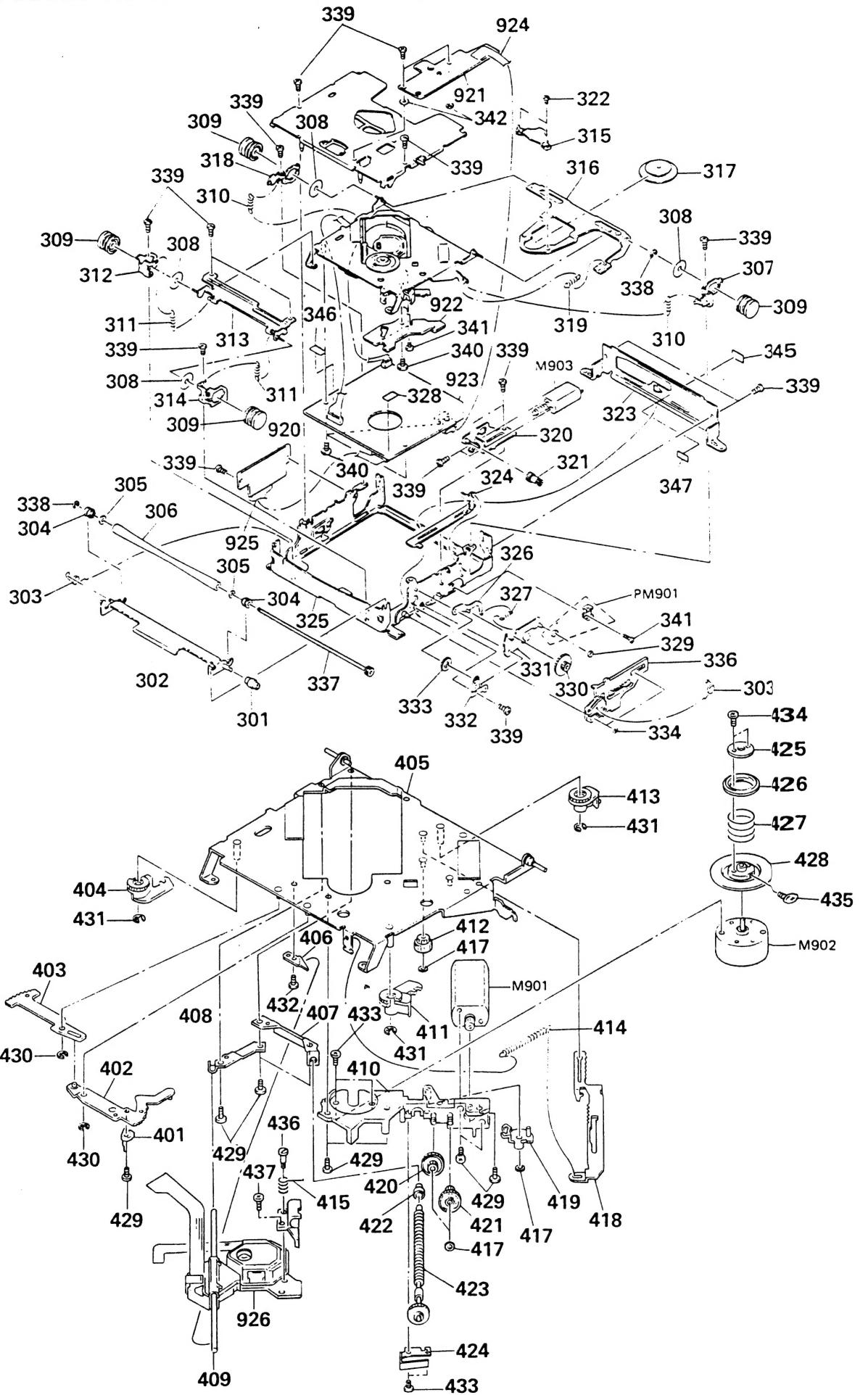
13. MODIFICATIONS IN PRODUCTION

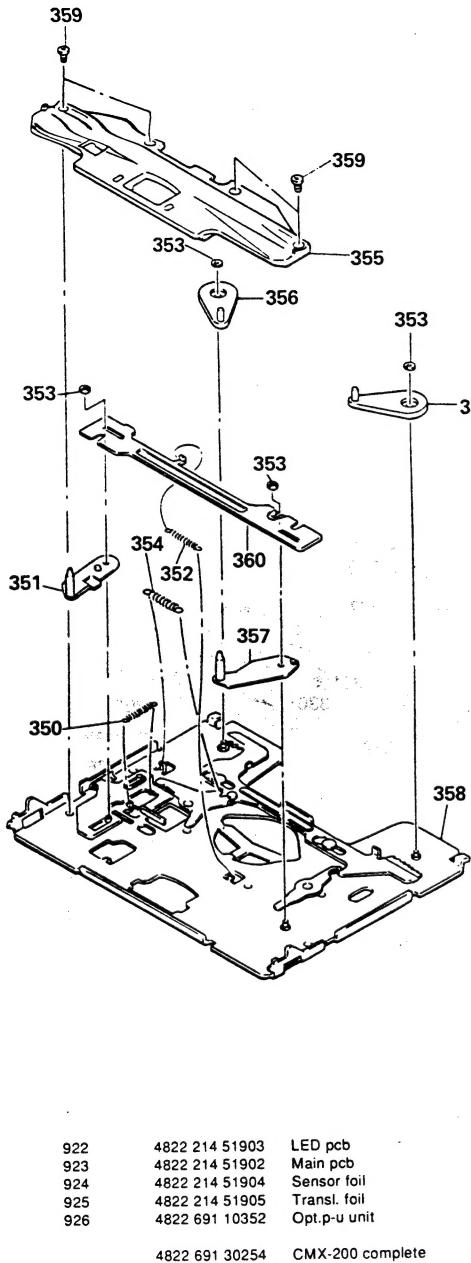
- During production the loading motor drive circuit has been redesigned into an IC-version. Circuit diagram I (page 7) shows the changed version. The original circuit is shown below. The layout of the main pcb shows the original version. The list of electrical parts shows the original parts.

- Q424, R448, R449 have been added. Also, some components have been renumbered. Refer to modified circuit diagram below. This modification is shown neither in the layout of the main pcb, nor in the list of electrical parts. C901, 902, D902, R901, 902 have been added to 22-IC502. Original circuit: 22-IC502 connected to 16-IC503/21-IC1, connection 11 from 61-IC1 to R449.



14. EXPLODED VIEWS & LIST OF MECHANICAL PARTS





**Only parts stated below are
considered Service parts.**

301	4822 520 40287
303	4822 492 42575
306	4822 528 70766
309	4822 529 10275
310	4822 492 33304
311	4822 492 33303
315	4822 404 21187
317	4822 526 20195
319	4822 492 33302
321	4822 522 33154
322	4822 502 13858
327	4822 492 33308
330	4822 522 33153
333	4822 522 33151
334	4822 532 12115
336	4822 404 21188
337	4822 535 93265
338	4822 530 70599
339	4822 502 13859
340	4822 502 13854
341	4822 502 13862
350	4822 492 33307
352	4822 492 33306
353	4822 532 12115
354	4822 492 33305
356	4822 522 33152
401	4822 404 21186
404	4822 522 33148
410	4822 464 70583
411	4822 522 33147
412	4822 522 33144
413	4822 522 33149
414	4822 492 33301
415	4822 492 42574
416	4822 505 11108
417	4822 532 52372
419	4822 404 21185
420	4822 522 33146
421	4822 522 33145
422	4822 532 52371
423	4822 502 13852
425	4822 532 12113
426	4822 532 12114
427	4822 492 52275
428	4822 528 10832
429	4822 502 13861
430	4822 530 70599
431	4822 530 70601
432	4822 502 13863
433	4822 502 13857
434	4822 502 13855
435	4822 502 13856
436	4822 502 13853

15. List of electrical parts

-II-		-III-			
C1	4822 124 23941	10µF 20% 6.3V	C518	4822 124 23941	10µF 20% 6.3V
C2	4822 126 11892	33pF 5% 50V	C519	4822 126 11897	4.7nF 10% 50V
C3	4822 126 11892	33pF 5% 50V	C520	4822 124 23944	1µF 20% 50V
C101	4822 124 23941	10µF 20% 6.3V	C521	4822 126 11903	1µF % 16V
C102	4822 126 11896	1.5nF 10% 50V	C522	4822 126 11898	10nF 10% 25V
C103	4822 126 11893	150pF 5% 50V	C523	4822 124 23943	0.47µF 20% 50V
C104	4822 126 11895	1nF 10% 50V	C524	4822 126 11895	1nF 10% 50V
C105	4822 126 11898	10nF 10% 25V	C525	4822 126 11891	4pF 25% 50V
C106	4822 124 23942	4.7µF 20% 16V	C526	4822 126 11891	4pF 25% 50V
C201	4822 124 23941	10µF 20% 6.3V	C527	4822 126 11892	33pF 5% 50V
C202	4822 126 11896	1.5nF 10% 50V	C550	4822 126 11903	1µF % 16V
C203	4822 126 11893	150pF 5% 50V	C571	4822 126 11903	1µF % 16V
C204	4822 126 11895	1nF 10% 50V	C572	4822 126 11903	1µF % 16V
C205	4822 126 11898	10nF 10% 25V	C573	4822 124 23941	10µF 20% 6.3V
C206	4822 124 23942	4.7µF 20% 16V	C574	4822 124 23939	22µF 20% 4V
C301	4822 124 11247	4.7µF 10% 16V	C575	4822 126 11903	1µF % 16V
C302	4822 126 11902	100nF 10% 25V	C576	4822 126 11903	1µF % 16V
C303	4822 124 11247	4.7µF 10% 16V	C577	4822 126 11903	1µF % 16V
C304	4822 126 11894	330pF 10% 50V	C578	4822 124 23939	22µF 20% 4V
C305	4822 126 11894	330pF 10% 50V	C579	4822 126 11903	1µF % 16V
C306	4822 124 23945	330µF 20% 6.3V	C580	4822 126 11895	1nF 10% 50V
C307	4822 126 11903	1µF % 16V	□		
C308	4822 124 23945	330µF 20% 6.3V	JR601	4822 116 83416	Jumper OE
C309	4822 126 11903	1µF % 16V	JR902	4822 116 83451	Jumper OE
C321	4822 126 11903	1µF % 16V	R3	4822 116 83432	100K 5% 1/16W
C322	4822 124 23942	4.7µF 20% 16V	R4	4822 116 83429	22K 5% 1/16W
C401	4822 126 11892	33pF 5% 50V	R16	4822 116 83435	1M 5% 1/16W
C402	4822 126 11892	33pF 5% 50V	R001	4822 111 92054	100k NETWORK
C411	4822 126 11892	33pF 5% 50V	R002	4822 111 92051	22k NETWORK
C412	4822 126 11892	33pF 5% 50V	R003	4822 111 92051	22k NETWORK
C421	4822 126 11892	33pF 5% 50V	R004	4822 111 92051	22k NETWORK
C422	4822 126 11892	33pF 5% 50V	R005	4822 111 92051	22k NETWORK
C431	4822 126 11892	33pF 5% 50V	R006	4822 111 92051	22k NETWORK
C432	4822 126 11892	33pF 5% 50V	R007	4822 111 92053	47k NETWORK
C441	4822 126 11902	100nF 10% 25V	R008	4822 111 92052	27k NETWORK
C442	4822 126 11902	100nF 10% 25V	R009	4822 111 92049	10k NETWORK
C443	4822 126 11898	10nF 10% 25V	R010	4822 111 92054	100k NETWORK
C470	4822 124 23942	4.7µF 20% 16V	R101	4822 116 83439	10k 1% 1/16W
C501	4822 124 23939	22µF 20% 4V	R102	4822 116 83439	10k 1% 1/16W
C502	4822 124 11246	47µF 20% 6.3V	R103	4822 116 83442	15k 1% 1/16W
C503	4822 126 11901	33nF 10% 25V	R104	4822 116 83446	27k 1% 1/16W
C504	4822 126 11899	2.7nF 10% 50V	R105	4822 116 83432	100k 5% 1/16W
C505	4822 126 11898	10nF 10% 25V	R201	4822 116 83419	10k 1% 1/16W
C506	4822 126 11902	100nF 10% 25V	R202	4822 116 83419	10k 1% 1/16W
C507	4822 126 11898	10nF 10% 25V	R203	4822 116 83442	15k 1% 1/16W
C508	4822 126 11901	33nF 10% 25V	R204	4822 116 83446	27k 1% 1/16W
C509	4822 126 11895	1nF 10% 50V	R205	4822 116 83432	100k 5% 1/16W
C510	4822 126 11895	1nF 10% 50V	R301	4822 116 83426	4.7k 5% 1/16W
C511	4822 126 11897	4.7nF 10% 50V	R302	4822 116 83424	2.7k 5% 1/16W
C512	4822 126 11901	33nF 10% 25V	R303	4822 116 83439	10k 1% 1/16W
C513	4822 126 11902	100nF 10% 25V	R321	4822 116 83446	27k 1% 1/16W
C514	4822 126 11901	33nF 10% 25V	R322	4822 116 83441	12k 1% 1/16W
C515	4822 124 11247	4.7uF 10% 16V	R323	4822 116 83431	47k 5% 1/16W
C516	4822 126 11902	100nF 10% 25V	R324	4822 116 83422	1k 5% 1/16W
C517	4822 126 11902	100nF 10% 25V	R401	4822 116 83446	27k 1% 1/16W

R402	4822 116 83443	24k 1% 1/16W
R403	4822 116 83443	24k 1% 1/16W
R404	4822 116 83446	27k 1% 1/16W
R405	4822 116 83441	12k 1% 1/16W
R406	4822 116 83446	27k 1% 1/16W
R411	4822 116 83446	27k 1% 1/16W
R412	4822 116 83443	24k 1% 1/16W
R413	4822 116 83446	27k 1% 1/16W
R414	4822 116 83446	27k 1% 1/16W
R415	4822 116 83441	12k 1% 1/16W
R416	4822 116 83446	27k 1% 1/16W
R421	4822 116 83446	27k 1% 1/16W
R422	4822 116 83443	24k 1% 1/16W
R423	4822 116 83446	27k 1% 1/16W
R424	4822 116 83446	27k 1% 1/16W
R425	4822 116 83441	12k 1% 1/16W
R426	4822 116 83446	27k 1% 1/16W
R431	4822 116 83446	27k 1% 1/16W
R432	4822 116 83443	24k 1% 1/16W
R433	4822 116 83446	27k 1% 1/16W
R434	4822 116 83446	27k 1% 1/16W
R435	4822 116 83441	12k 1% 1/16W
R436	4822 116 83446	27k 1% 1/16W
R443	4822 116 83438	20k 5% 1/16W
R444	4822 116 83446	110k 5% 1/16W
R445	4822 116 83444	91k 5% 1/16W
R446	4822 116 83433	180k 5% 1/16W
R447	4822 116 83425	3.9k 5% 1/16W
R451	4822 116 83423	2.2k 5% 1/16W
R452	4822 116 83423	2.2k 5% 1/16W
R453	4822 116 83426	4.7k 5% 1/16W
R454	4822 116 83426	4.7k 5% 1/16W
R455	4822 116 83418	10E 5% 1/8W
R456	4822 116 83422	1k 5% 1/16W
R502	4822 116 83418	10E 5% 1/8W
R503	4822 116 83439	10k 1% 1/16W
R505	4822 116 83421	100E 5% 1/16W
R506	4822 116 83439	10k 1% 1/16W
R507	4822 116 83439	10k 1% 1/16W
R508	4822 116 83437	510k 5% 1/16W
R509	4822 116 83436	3k 5% 1/16W
R510	4822 116 83427	5.6k 5% 1/16W
R511	4822 116 83427	5.6k 5% 1/16W
R512	4822 116 83434	220k 5% 1/16W
R513	4822 116 83428	18k 5% 1/16W
R514	4822 116 83448	270k 5% 1/16W
R515	4822 116 83429	22k 5% 1/16W
R516	4822 116 83437	510k 5% 1/16W
R517	4822 116 83424	2.7k 5% 1/16W
R518	4822 116 83433	180k 5% 1/16W
R519	4822 116 83439	10k 1% 1/16W
R520	4822 116 83431	47k 5% 1/16W
R521	4822 116 83439	10k 1% 1/16W
R522	4822 116 83435	1M 5% 1/16W
R523	4822 116 83438	20k 5% 1/16W
R526	4822 116 83439	10k 1% 1/16W
R527	4822 116 83439	10k 1% 1/16W
R530	4822 116 83439	10k 1% 1/16W
R531	4822 116 83432	100k 5% 1/16W
R532	4822 116 83418	10E 5% 1/8W
R550	4822 116 83435	1M 5% 1/16W
R631	4822 116 83415	560E 5% 1/8W
R997	4822 116 83447	27k 5% 1/16W
R998	4822 116 83452	30k 5% 1/16W
R999	4822 116 83449	330k 5% 1/16W
RV401	4822 100 30168	4.7k Adj.potm.
RV501	4822 100 30165	47k Adj.potm.
RV502	4822 100 30166	47k Adj.potm.
RV503	4822 100 30169	2k Adj.potm.
RV504	4822 100 30169	22k Adj.potm.
RV505	4822 100 30167	2.2k Adj.potm.
TH441	4822 111 92055	Thermistor
TH442	4822 111 92055	Thermistor
TH501	4822 111 92055	Thermistor
L1	4822 157 63598	10uH
L501	4822 157 63598	10uH
L502	4822 157 63597	3.3uH
D1	4822 130 82816	DCB015
D301	4822 130 82817	DTZ5.1B
D302	4822 130 82818	DTZ10B
D401	4822 130 82815	DCA015
D402	4822 130 82814	DSA015
D403	4822 130 82813	RD10M
D631	4822 130 82811	LED LN1261C
D632	4822 130 82811	LED LN1261C
D633	4822 130 82811	LED LN1261C
Q101	4822 130 62893	DTC343TK
Q201	4822 130 62893	DTC343TK
Q301	4822 130 62895	IMB1
Q302	4822 130 62888	2SD1950
Q303	4822 130 62896	IMX2
Q401	4822 130 62892	DTC114EU
Q402	4822 130 62884	2SD1624-T
Q403	4822 130 62885	2SB1124-T
Q404	4822 130 62884	2SD1624-T
Q405	4822 130 62885	2SB1124-T
Q406	4822 130 62884	2SD1624-T
Q407	4822 130 62885	2SB1124-T
Q408	4822 130 62884	2SD1624-T
Q409	4822 130 62885	2SB1124-T
Q410	4822 130 62884	2SD1624-T
Q411	4822 130 62885	2SB1124-T
Q412	4822 130 62884	2SD1624-T
Q413	4822 130 62885	2SB1124-T
Q414	4822 130 62884	2SD1624-T

Q415	4822 130 62885	2SB1124-T
Q416	4822 130 62884	2SD1624-T
Q417	4822 130 62885	2SB1124-T
Q418	4822 130 62889	2SB1000
Q419	4822 130 62889	2SB1000
Q420	4822 130 62894	F1IG-9
Q421	4822 130 63617	2SD1870
Q422	4822 130 63617	2SD1870
Q423	4822 130 61908	DTC143TU
Q425	4822 130 62884	2SD1624-T
Q501	4822 130 62887	2SB624
Q502	4822 130 62891	2SA1179
Q503	4822 130 62894	F1IG-9
Q504	4822 130 62892	DTC114EU
Q505	4822 130 61908	DTC143TU
Q621	4822 130 62882	PN147-FL
Q622	4822 130 62882	PN147-FL
Q623	4822 130 62882	PN147-FL
IC1	4822 209 30566	CPX506BH-035Q μC
IC301	4822 209 30029	PCM66P D/A converter
IC302	4822 209 30568	NJM4560M Dig. filter
IC401	4822 209 30567	M5228FP Motor drive
IC402	4822 209 30567	M5228FP Fo/Tr servo
IC501	4822 209 61379	CXA1081Q RF Amp.
IC502	4822 209 61381	CXA1082BQ Servo ct
IC503	4822 209 30565	CXD1125Q Signal μP
IC505	4822 209 32926	SM5807ES Dig. filter
Miscellaneous		
CNJ1	4822 267 51124	16p brown
CNJ2	4822 267 51123	10p brown
CNJ3	4822 267 41019	5p white
CNJ4	4822 267 51125	13p white
CNP3	4822 267 51122	9p white
CNP601	4822 265 41156	15p
M901	4822 361 30375	SLED motor
M902	4822 361 30376	Turntable motor
M903	4822 361 30374	Loading motor
PM901	4822 281 50166	Plunger motor
SW621	4822 276 13168	Shutter detector
SW622	4822 276 13168	Disc detector
SW631	4822 271 30762	Limit detector
SW632	4822 271 30762	Rock gear detector
X1	4822 242 81008	Ceram resonator 4.19MHz
X501	4822 242 81004	Crystal 16.93MHz

Service
Service
Service

Car Systems Service

Service Information

Corrections to the Service Manual 4822 725 24323

Pages 21 to 23 Electrical Partslist

2750	4822 122 32916	22nF 10% X7R 63V
2764	4822 122 32916	22nF 10% X7R 63V
3750	4822 051 20104	100K 5% 0,1W
3756	4822 051 20562	5K6 5% 0,1W
3757	4822 051 20393	39K 5% 0,1W
3758	4822 051 20393	39K 5% 0,1W
3762	4822 116 52186	22Ω 5% 0,5W
7750	4822 209 31373	IC L4949

Page 12-12a Radio PCB Part 2

In the upper side of the schematic diagram, do not take in account the part "radio PCB part 3" (also the corresponding parts in the PCB layout, stated with a **), not used in /62E versions.
These parts are only used in 982/62B and 962/62B, service manual 4822 725 24322.

1993-07-13



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